Human Resource Training and National Sport Organization Managers: Examining the Impact of Training on Individual and Organizational Performance

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Abstract

Within sport, a tremendous amount of effort is committed to the on-the-field performance of athletes and coaches, neglecting the off-the-field performance and development of sport managers. This study examines the impact of human resource training on the performance of five Canadian national sport organizations (NSO) and their managers (*N*=22). Data were collected on three outcome variables (learning, individual performance, organizational performance) and three mediating variables (motivation to transfer, training design, organizational climate) at three time measures (pre-training, post-training[1], post-training[2]). Results indicate that training improves the learning and individual performance of sport managers, as well as the organizational performance of NSOs. Varying relationships were found at each of the three time measures, demonstrating that a progression to training-related performance change exists, while providing support for three levels of analysis (individual, organizational, systemic). Implications and future research directions are discussed and highlight the need for on-going training opportunities for Canadian sport managers.

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Chapter One: Introduction

Canadian national sport organizations (NSO) are consistently under pressure to implement management practices that ensure organizational effectiveness and maintain a strategic planning approach (Papadimitriou, 2007). Yet, at the same time, NSOs are under extreme pressure to produce athletic success on the national and international stages (Senior Leaders Forum, 2008). These two priorities reflect opposing forces within the minds of today's national sport managers (D. Bell-Laroche, personal communication, 2010). Government mandates that focus on producing successful athletes build a sport system that places little emphasis on the organizational and administrative elements of sport in Canada. Consequently, despite the steps taken towards increased professionalization within Canadian sport organizations, very few opportunities for professional development are available for sport managers.

Enhanced government involvement and the addition of full-time paid sport managers contributed to an increasingly professionalized Canadian sport system (Kikulis, Slack, & Hinings, 1995; Macintosh & Whitson, 1990). The Federal Government's 1969 *Report of the Task Force on Sports* criticized national sport governing bodies for their "kitchen table" style of organization, in which boards were comprised of part-time volunteers (Macintosh, Bedecki, & Franks, 1988; Thibault, Slack, & Hinings, 1991). The voluntary nature of the administration posed inherent risks for the future growth and development of Canadian sport organizations as volunteer sport administrators were spending the majority of their time on the day to day administration of their sport

(Thibault et al., 1991). This left sport managers with little to no time to think about the future direction of their sport and to develop strategic plans (Thibault et al., 1991).

In an effort to alleviate the risks associated with the voluntary nature of the organizations, the federal government provided funding in the 1970s for certain national sport organizations to hire an executive director based on the popularity of the sport and the size of the organization (Thibault, Slack, & Hinings, 1991). The funding allowed volunteer sport administrators to focus less on the day-to-day tasks of organizational operations and more on the strategic planning of their sport. Throughout the 1970s and 1980s, many other sport organizations hired professional staff such as technical directors, accountants, marketing managers, and coaches (Thibault et al., 1991). The increased federal government involvement in sport during the 1970s also stimulated the growth of sport bureaucracies at the provincial level, with paid professionals comprising the majority of upper level managerial positions (Macintosh, Bedecki, & Franks, 1988). With the increase in positions occupied by professionals and a growth in the public's interest in sport, expectations of Canadian sport organizations raised drastically (Macintosh et al., 1988).

The incorporation of professional staff and the provincial, national, and international influence of sport contributed to the increased professionalization of Canadian national sport organizations (Kikulis, Slack, & Hinings, 1995; Thibault, Slack, & Hinings, 1991). The introduction of paid staff increased the level of specialization and standardization within the organizations and produced a more decentralized decision making system (Thibault et al., 1991). In addition, budgeting, research and development, performance appraisal, and risk management strategies were introduced. The

incorporation of paid staff was an initial step towards professionalization within the Canadian sport system and indicated a shift towards the recognition of the organizational aspects and internal processes of NSOs. However, the increased funding to support paid staff was not matched with the necessary professional development strategies and, as a result, the increase in funding has acted as a first step in the professionalization process (Hall, 1968; Koegh, 1997). The shift away from volunteer-run organizations has not meant that growth has continued to include on-going professional development for sport managers.

A lack of focus on professional development strategies is particularly evident in the subsequent sport policies and funding structures instituted by the federal government. The Canadian sport system, as a whole, is overwhelmingly devoted to the performance of athletes and coaches, and consequently neglects to recognize the performance of sport managers and their organizations (D. Bell-Laroche, personal communication, 2010; Senior Leaders Forum, 2008). This imbalance is very apparent in the government sport policies, which highlight athletic performance as a top priority. The *Canadian Sport Policy* (CSP), the *Sport Funding and Accountability Framework* (SFAF), and the *Own the Podium* (OTP) initiative exhibit this imbalance between on-the-field and off-the-field performance. Further, these policies and initiatives highlight the lack of focus on professional development strategies within the Canadian sport system. Canadian sport organizations are extremely reliant on government funding as a major source of income and, as such, these three policies and initiatives (CSP, SFAF, and OTP) are very influential in the decisions and priorities set by NSOs and can help us understand why the professional development of Canada's sport managers is under-emphasized.

The vision of the *Canadian Sport Policy* (CSP) is to have "a dynamic and leading-edge sport environment that enables all Canadians to experience and enjoy involvement in sport to the extent of their abilities and interests and, for increasing numbers, to perform consistently and successfully at the highest competitive levels" (Government of Canada, 2002, p. 4). The CSP outlines four overall goals – enhanced participation, enhanced excellence, enhanced capacity, and enhanced interaction, with the hopes of increasing participation, fostering world-class success, strengthening the sport system, and collaborating and communicating among stakeholders, respectively. These goals represent the four pillars of the *Canadian Sport Policy*, which the federal government presents as equally important aspects of the Canadian sport system (Government of Canada, 2002). However, in reality, the enhanced excellence pillar is overwhelmingly dominant in the evaluation strategies of organizational effectiveness, which plays an integral role in determining the priorities of each NSO (Havaris & Danylchuk, 2007; Sport Canada, 2005c).

The enhanced excellence pillar is the only goal in the CSP that addresses the performance of the sport organizations in the Canadian sport system. In order to enhance excellence, performance targets are established for major sporting events to guide the expectations and assist in evaluating the performance and effectiveness of Canada's sport system (Government of Canada, 2002). As such, athletic success on the national and international stage is in the forefront of organizational evaluation in NSOs, rather than a combination of the policy's four pillars. Particularly, the enhanced capacity pillar, which encompasses the internal processes of the NSOs, is not recognized as an essential element of funding allocation (Senior Leaders Forum, 2008). The enhanced capacity pillar is

depicted as being in place for the sole purpose of achieving the more dominant goals of enhanced excellence and enhanced participation (Government of Canada, 2002).

The lack of focus on the enhanced capacity pillar is particularly evident in the *Sport Funding and Accountability Framework* (SFAF) which is the process used by the Canadian government to identify which sport organizations are eligible for funding and the amount of funding allocated (Sport Canada, 2005c). The SFAF includes primarily on-the-field performance based criteria in order to determine funding eligibility and ignores the organizational performance elements of national sport organizations (Sport Canada, 2005c). In SFAF II (2001-2004), NSOs were assessed based on 70% high performance, 20% sport development, and 10% capacity, demonstrating that the majority of the evaluation criteria were aimed at elite sport initiatives, but still recognizing sport development and capacity as integral elements in the assessment process (Havaris & Danylchuk, 2007). Assessment weighting in SFAF III (2005-2010) and SFAF IV (2010-2014), however, deviates further from the four objectives of the CSP with a 60% high performance, 40% sport development split, completely removing capacity from the evaluation framework (Havaris & Danylchuk, 2007; Sport Canada, 2005a; Sport Canada, 2009). More specifically, 40% of the high performance assessment is directly based on athlete results (track record) at Olympic Games and World Championships (Sport Canada, 2005a; Sport Canada, 2009). Since 2005 (SFAF III), NSOs have been assessed, scored, funded, and ranked based on one or both of these funding streams: excellence and/or sport development, rather than based on a combined or overall score that was used in earlier versions of the SFAF (Havaris & Danylchuk, 2007).

Lastly, *Own the Podium* (OTP) is a national initiative designed to help Canadian athletes excel on the Olympic and Paralympic stage. The goal of OTP was to place at the top of the overall country medal count in the 2010 Olympic winter games and top three in the 2010 Paralympic winter games (VANOC, 2009). OTP was created to bring together the key parties involved in leading and funding excellence in Canadian sport and make recommendations to national funding parties on the amount of resources allocated to each NSO. In 2009, OTP controlled the allocation of over 22 million dollars in government funding to winter sports in Canada (VANOC, 2009). OTP also played a role in monitoring the implementation of high-performance programs in order to ensure maximum performance results. As such, OTP has a strong influence upon the evaluation of NSOs and the allocation of sport funding in Canada. Not only is athletic performance evaluated at a one-time event such as the Olympics, but the evaluation of the sport organization is also based on a single athletic performance.

The *Own the Podium* criteria place extreme pressure on Canadian national sport organizations to focus on athletic output and podium results, advancing the 'excellence' goal of the *Canadian Sport Policy*, while completely overlooking the organizational structures and processes behind that performance (2010 and Beyond Panel, 2009; D. Bell-Laroche, personal communication, 2010). Havaris and Danylchuk (2007) expressed the potential danger of the OTP initiative in that NSOs would focus resources predominantly in high performance areas and the sport system as a whole would fail to achieve its other objectives. Further, Sport Canada released a *Sport Excellence Strategy* (2005b), which states that "success will be based, first and foremost, on the achievement

of athlete performance targets at the Olympic and Paralympic Games," (p. 6) as a method of measuring success and being accountable for the use of public funds.

The funding structures and evaluation initiatives outlined in the CSP, SFAF, and OTP policies create a perpetual cycle that neglects off-the-field performers and the internal processes of sport organizations, and emphasizes the on-the-field performances of athletes and coaches. The design and evaluation associated with these policies and initiatives support an overwhelming focus upon on-the-field performance as the sole indicator of success. The lack of focus on the off-the-field components of performance undermines the importance of the managerial aspects of sport. The evaluation strategies tied to the CSP, SFAF and OTP force NSOs to align their priorities with athletic excellence. The CSP, SFAF, and OTP adopt a very outcome-based form of evaluation and, as a result, NSOs are forced to adopt the same outcome-focused mentality, further perpetuating the cycle of neglect towards the development of sport managers in Canadian sport.

Nevertheless, NSO managers are in a state of readiness in which they are eager to develop their competencies and seek opportunities to improve their efficiency and effectiveness (D. Bell-Laroche, personal communication, 2010). Despite the dominance of high performance sport, NSOs are shifting to a more process-focused mentality towards the development of athletes and programs (Canadian Sport Centres, 2010). This process-focused mentality can also be appropriately applied to the sport system as a whole. Athletes go through a progression of skill development before reaching the high performance level. Similarly, organizations go through various stages of progression before producing an outcome, whether it is increasing membership, hosting a major

event, or contributing to the success of their athletes. A process-focused form of organizational evaluation recognizes the cultural and motivational aspects of the organization and its managers (Chelladurai, 1987; Papadimitriou, 2007). However, there is currently little recognition of these organizational processes within Canadian sport policies and, as a result, an outcome-focused mentality is promoted. Consequently, the development of NSO managers continues to be neglected and a focus on athletic successes and podium results remains dominant.

Since the off-the-field performers in national sport organizations continue to be neglected and the internal processes of sport organizations continue to be ignored as integral aspects of the sport system, it is no surprise that professional development strategies are overlooked. The overemphasis on athletic performance has led to a lack of focus on the training and development of Canada's sport managers. The overwhelming focus upon on-the-field performance inhibits the opportunity for professional development, leaving sport leaders with inadequate opportunities for improvement (Senior Leaders Forum, 2008). Off-the-field development improves the ability of NSO leaders to overcome internal organizational challenges, as well as promote the success of high performance athletes and coaches (Stuart, 2009).

With appropriate development, the pressures for athletic success and effective strategic planning will no longer be seen as opposing forces, but rather work together to further develop sport in Canada. Without the adequate and appropriate development of NSO leaders, optimization of the Canadian sport system is an unlikely outcome (Stuart, 2009). According to Stuart (2009), if the NSO leaders:

> Running Canada's high performance sport systems are not provided with an appropriate framework for dynamic organizational capacity development, designed to raise overall administrative skill and ability levels to consistently be the best in the world, the strong possibility exists that when Canadian high performance athletes compete on international and world stages their preparations will not be as complete as they could and should be (p. 1).

The administrative and managerial skills of NSO leaders play a vital role in enabling the opportunities and successes of athletes at the national and international levels (Stuart, 2009). Off-the-field training practices provide opportunities for learning and continual professional development. For example, if NSO leaders are trained in risk management, they will be more prepared to deal with the organizational challenges inherent in a sport organization and improve overall organizational performance. This training will likely go on to contribute to better on-the-field performance.

Currently, the Canadian sport system does not focus on the training and development of its managers, which are critical practices of strategic human resource management (Taylor, Doherty, & McGraw, 2008). The definitions of training and development are often used simultaneously in the sport context to describe all elements of workforce development and skill acquisition. However, training and development refer to two very different aspects of strategic human resource management. Training refers to the acquisition of knowledge and skill that contributes to the success of the current state of an organization (Noe, 1999). While, development refers to the preparation of individuals in order to enrich the organization in the future (Noe, 1999). Both training and development are essential human resource management practices that significantly contribute to an

organization's effectiveness and efficiency, however, based on the above definitions, this study only examines training within Canadian sport organizations (Noe, 1999; Vermeulen & Admiraal, 2009).

Employers and researchers traditionally focus on training as a means to acquire specific job-related skills and techniques (Scott, 1981). Historically, training assumed a narrow focus underpinned by a scientific management perspective that emphasized the rationalization of activities and supported a mechanistic view of employees (Ferris, Hall, Royle, & Martocchio, 2004). Employees were viewed as a resource that must be efficient and effective in order to maximize the strategic outcomes of the organization (Cullinane, n.d.; Ferris et al., 2004). Training programs were designed as instruments to attain specific goals and to develop employees in a calculative manner (Cullinane, n.d.; Scott, 1981). Employees were part of a highly structured organizational model that included formal roles, rules, and responsibilities in order to emphasize efficiency in achieving organizational objectives (Baum & Rowley, 2002).

The mechanistic view of workers resulted in a deterministic approach towards employee behaviours in order to attain specific objectives (Braverman, 1974). More recently, with the growth of industrial psychology, the benefits associated with training that relate to employee development force training programs to assume a broader focus (Ferris, Hall, Royle, & Martocchio, 2004). The informal structure of roles and relationships that emerge among individuals and groups is what shapes organizational activities and goals (Baum & Rowley, 2002). The combination of both narrow and broad approaches to training programs develops specific skills and job-related techniques, while at the same time, promotes independent growth and development for the employee. Thus,

training programs contribute to the creation of both a competitive advantage for the organization and individual competencies that combine to influence job performance.

All organizations are mechanisms to achieve something, but what they desire to achieve differs greatly between for-profit and not-for-profit organizations (Herman & Renz, 2008). The expectations and outcomes from training differ between for-profit and not-for-profit organizations, because the organizational goals and performance indicators differ. In order to determine whether training achieves the objective of improved individual or organizational performance, evaluation that captures the appropriate outcomes of the training program is needed. The evaluation strategies must capture the suitable performance outcomes for the type of organization (Herman & Renz, 2008). Whether the organization is for-profit or not-for-profit, evaluation is essential in order to determine the success or failure of a training program (Alvarez, Salas, & Garofano, 2004).

The transfer of learned material to job performance must be assessed in order to justify the amount of resources used to develop and implement a training program (Rusaw, 2000). In order for learned material to be transferred to on the job performance, the material must be understood and applied to the individual's job tasks and responsibilities (Yamnill & McLean, 2001). As such, a trainee's level of understanding and applicability of the training content must be evaluated before and after a training program in order to demonstrate whether a change in learning has occurred (Baldwin & Ford, 1988). The evaluation of a training program not only exposes the strengths and weaknesses of the training program, but also reveals the effectiveness of the training program over time (Rusaw, 2000). In order for the evaluation of a training program to be

of value, there must be multiple measures of learning following the training program to demonstrate the long-term benefits and the sustainability of the training material (Lim & Morris, 2006).

Unfortunately, within the context of sport organizations, human resource management training practices have had little practical application (Doherty, 1998). Further, minimal support for formal structures of training and the facilitation of employee development exist within sport organizations (Doherty, 1998). The performance of a national sport organization (NSO) depends on many factors, one of which is the ability of its managers, who require structured and continual training programs in order to effectively administer their respective sport. NSO managers are responsible for allocating funds at all levels of their sport, hosting provincial and national events, ensuring membership, and overseeing athlete and event insurance (Senior Leaders Forum, 2008).

Without NSOs, the Canadian sport system would be fragmented on the national scale and would further contribute to incommensurability among sport organizations. Further, NSOs are the liaison among athletes, provincial and community sport organizations and the federal government, which is the key funding agent for sport organizations in Canada. The funding structure for national sport organizations focuses heavily upon the on-the-field performance of athletes, where high-performance athletic success is the key determinant of funding (Havaris & Danylchuk, 2007). The importance of the role of NSOs exposes the significance of professional development strategies for its leaders. However, due to the lack of human resource management practices implemented in the sport forum, NSO managers experience few to no opportunities for

professional development. This lack of focus on off-the-field elements of sport development leaves NSO managers with inadequate training experiences.

Purpose and Research Questions

The neglect of training practices in Canadian national sport organizations and the lack of research surrounding training and its evaluation in sport organizations inspired this study. Based on training evaluation literature and the growing body of literature surrounding the development of a theory of training transfer, the purpose of this study was twofold. First, this study examined NSO leaders who took part in a training program in order to understand how training influences individual performance and the overall performance of national sport organizations. Second, this study aimed to contribute to the theory of training transfer by empirically examining how a combination of three intervening factors influence the transfer of training. As such, the following research questions were proposed:

1. To what extent does training influence the individual performance of sport leaders and the organizational performance of their relevant national sport organization?
2. To what extent do motivation to transfer, training design, and organizational climate influence the impact of training on the individual performance of Canadian sport leaders?

The following chapter discusses the body of literature surrounding the development of a theory of training transfer and includes research on human resource

management training practices and NSOs where relevant. The variables involved in training transfer, including learning, individual performance, and organizational performance, will be reviewed. In addition, the literature surrounding three proposed intervening factors that mediate the relationship between learning and individual performance – motivation to transfer, training design, and organizational climate – will be outlined. The methods section of the paper outlines the research design, context, participants, measures, procedures and data analysis of the study.

Chapter Two: Review of Literature

Although there are minimal opportunities for the training and development of sport managers and little research focusing on training within Canadian sport, human resource management (HRM) literature provides an appropriate theoretical and conceptual base for analyzing training in sport organizations. There is a general consensus in HRM literature that all training practices ultimately aim to improve individual and organizational performance through the transfer of training (Baldwin & Ford, 1988; Holton, Bates, & Ruona, 2000; Kirkpatrick, 1996). Training transfer is defined as the extent to "which what is learned in training is applied to the job and enhances job-related performance" (Laker 1990, p. 209). A change in performance, as a result of training, results from both the mastery and application of the knowledge, skills, and behaviors emphasized throughout the training program (Baldwin & Ford, 1988; Kim, 2004b). In order for training transfer to occur, the training material must, first, be understood and applicable, indicating that learning has occurred (Lim & Morris, 2006), and second, be transferred to performance through the application, generalizability, and maintenance of the new practices and strategies developed through training (Ford & Weissbein, 1997). Transfer of training has not occurred unless there is a measurable change or impact on performance (Swanson & Arnold, 1996).

The Theory of Training Transfer

The development of a theory of training transfer has, and continues to be, an on-going process. Initial studies surrounding the evaluation of training programs captured a very practical and basic portrayal of the constructs involved in the transfer of training.

Over the past forty years, transfer of training research has expanded to include the discussion and evaluation of the relationships between these constructs.

Kirkpatrick's (1959) levels of training evaluation. Kirkpatrick (1959) created the first attempt at a model of training evaluation that illustrated causal relationships among the variables involved in the transfer of training. Kirkpatrick's model (1959) of training evaluation included four levels of analysis for determining the effectiveness of a training program. The four levels consisted of the participant's *reaction* to the training, the *learning* that takes place as a result of training, the changes in *behavior* that result from training, and the final *results* that occur due to training (Kirkpatrick, 1959). This model of training evaluation clearly filled a gap in organizational evaluation as it was picked up very enthusiastically in both practical and research settings (Alliger & Janak, 1989). The wide acceptance of this model can be attributed to its simplistic nature and its ability to stimulate thinking surrounding the evaluation of training programs (Alliger & Janak, 1989).

However, the simplistic nature of Kirkpatrick's model also contributed to its flawed design (Alliger & Janak, 1989). Despite the fact that Kirkpatrick's model presented an accurate depiction of the overall transfer of training, the specifics of each level were not explored in-depth and the model acted more as a taxonomy or classification system for the levels involved in the evaluation of training programs rather than an explanatory representation (Holton, 1996). Alliger and Janak (1989) and Holton (1996), although not dismissing its contribution to the field of human resource development, recognized that Kirkpatrick's model of evaluation was simplistic and required a more exploratory approach. Kirkpatrick outlined the constructs involved in the

transfer of training, but neglected to present a systematic view of the relationships among these constructs (Alliger & Janak, 1989; Baldwin & Ford, 1988). As a result, they believed Kirkpatrick's contribution to a theory of training transfer was limited.

Kirkpatrick's model was also unintentionally embedded with several dualistic assumptions that supported the further development of evaluation models, but also raised questions of legitimacy (Alliger & Janak, 1989). The model portrayed the assumptions that the four levels are arranged in ascending order, causally linked, and positively correlated (Alliger & Janak, 1989). On one hand, these assumptions proved to be problematic, as the steps in Kirkpatrick's model were linked together and portrayed as having direct relationships without having the empirical or conceptual support for these claims (Alliger & Janak, 1989). On the other hand, the assumptions stimulated thinking surrounding the potential for relationships among these variables and stimulated an additional stream of research in the transfer of training. Questions were raised regarding the outcome factors of training evaluation studies and whether the outcomes were interrelated and necessary for the transfer of training (Alliger & Janak, 1989; Baldwin & Ford, 1988).

Baldwin and Ford's (1988) model of the transfer process. As a result of the questions raised due to the simplicity of Kirkpatrick's model, research began to focus on the various interrelated constructs involved in the transfer of training, capturing a more systematic view of the transfer process (Baldwin & Ford, 1988). Baldwin and Ford (1988) conducted an in-depth review of the transfer of training literature in an attempt to summarize the state of research surrounding a theory of training transfer. They believed a clearer understanding of what is meant by transfer and the identification of the factors

that affect transfer was needed in order to develop a useful theory of training transfer (Baldwin & Ford, 1988). Throughout the 30 years following Kirkpatrick's model of training evaluation, research focused on a number of factors that contributed to the transfer of training (Baldwin & Ford, 1988). Baldwin and Ford (1988) summarized the role that these factors played in the transfer of training and proposed a model of the transfer process that divided the process into *training inputs*, *training outputs*, and *conditions for transfer*. The *training inputs* include the design of the training, trainee characteristics, and environmental factors, while the *training outputs* refer to the amount of original learning that occurs as a result of the training program and the retention of that material (Baldwin & Ford, 1988). The *conditions for transfer* include both the generalization of the material learned in the training program and the maintenance of the learned material over time (Baldwin & Ford, 1988).

Baldwin and Ford's (1988) model of the training process contributed greatly to the development of a theory of training transfer. The model not only captured the state of the literature at the time, but it also encompassed the various interrelations involved in the transfer of training. The model demonstrated the direct and indirect effects that the training inputs and training outputs have on the conditions for transfer, as well as the direct effects that training inputs have on training outputs (Baldwin & Ford, 1988). Despite their detailed summary and compilation of the training transfer literature, Baldwin and Ford (1988) neglected to include any performance outcome factors in their model of the transfer process. As mentioned, the training outputs only captured the learning and retention of that learning, without having specific performance measures. Although Baldwin and Ford's (1988) review continues to be cited extensively,

researchers who conducted subsequent studies regarding the transfer of training limited their use of the model, which limited its contribution to the development of a theory of training transfer (Kirwan & Birchall, 2006).

Holton's (1996) evaluation research and measurement model. Expanding on Baldwin and Ford's (1988) review and model of the transfer process, Holton (1996) compiled a summative review of the state of training evaluation research and the development of a theory of training transfer. Holton (1996) convincingly argued towards a more inclusive model of evaluation that captured the specific "outcomes correctly, account[ed] for the effects of intervening variables that affect outcomes, and indicate[d] causal relationships" (p. 5). As a result, Holton (1996) filled the gap that existed in the theory of training transfer due to Baldwin and Ford's (1988) exclusion of performance as a training outcome. Holton (1996) outlined the necessary components that are required in a theory and his review of literature followed these components in an attempt to portray the state of the theory of training transfer. In addition, Holton (1996) recognized that Kirkpatrick's model acted as a first step in the development of a theory of training transfer, as it was a taxonomy or classification system of the factors. However, as discussed above, there was little empirical research done to support the inclusion of these factors, making validation impossible (Holton, 1996). Studies that did follow Kirkpatrick's levels of evaluation reported weak correlations mainly because it is a taxonomy, which cannot recognize or define the causal constructs involved in transfer of training (Holton, 1996). Holton (1996) argued that there was a critical need for research to move away from the taxonomic nature of Kirkpatrick's model to a fully specified

model that meets the criteria of a theory[1]. Holton's (1996) model was developed by examining the relationships and constructs in existing literature in a grounded theory approach and integrating those findings within a theory of training transfer framework.

A major contribution of Holton's (1996) model involves his thorough review of literature surrounding all variables in the transfer of training process. In designing his model, Holton (1996) recognized all of the complex relationships that exist between the various intervening variables and identified learning and performance as major outcome factors. Holton (1996) argued that each variable must be included in order to capture a complete picture of the transfer of training. For instance, if a change in performance does not occur as a result of a training program, Kirkpatrick's model would suggest that this is due to a flaw in the training program. However, Holton (1996) argued that the training program could be very well designed and that the reason for the lack of change in performance could be due to problems that lie outside of the training program, such as individual characteristics or organizational climate. Holton's (1996) model recognized the roles that each intervening variable (motivational, environmental, and ability/enabling elements) and outcome variable (learning, individual performance, and organizational results) play in the transfer of training. Holton (1996) also outlined the influences on each of the individual intervening variables, which created a fairly complex depiction of the transfer of training process.

[1] Holton outlines the following six criteria of a theory: elements or units – represented as constructs – are the subject matter; there are relationships between the constructs; there are boundaries or limits of generalization; system states and changes are described; deductions about the theory in operation are expressed as propositions or hypotheses; and predictions are made about units.

Holton's model (1996) was a significant advance in the development of a theory of training transfer. Not only did Holton (1996) refer to empirical and conceptual research to support the elements of the model, but he also portrayed the complex nature of training evaluation, while describing the steps that need to be taken towards developing a comprehensive theory of training transfer. Empirical research that includes and tests the relationships among the various intervening variables is needed and this model acts as an initial step in that direction (Holton, 1996). While the complexity of Holton's model may be viewed as a flaw, Holton (1996) recognized that future research may require a simpler model that remains as inclusive, but offers a more concise portrayal of the relationships among the various constructs.

Yamnill and McLean's (2001) model of the factors affecting the transfer of training. Following Holton's (1996) thorough review of training transfer literature and the state of the development of a theory of training transfer, Yamnill and McLean (2001) extended the discussion by proposing theories to support the inclusion of each construct in a theory of training transfer model. In addition, Yamnill & McLean (2001) offered a simplified version of Holton's (1996) model that recognized learning, individual performance, and organizational results as the outcome factors, with motivation to transfer, transfer design, and transfer climate as the intervening variables between learning and individual performance. The simplified model provides an appropriate empirical guide for future studies on the transfer of training, as well as a framework for the development of a theory of training transfer. Yamnill and McLean (2001) also demonstrated that the training literature supported a consensus on the transfer of training factors. The proposed theories suggested by Yamnill and McLean (2001), such as

expectancy theory and identical elements theory, provided theoretical justification for each intervening variable in the model. The proposed theories offer early support for the inclusion of the intervening variables; however, more recently, the model as a whole has been recognized as a theoretical framework for training transfer research. Although Yamnill and McLean (2001) neglected to make empirical links between the proposed theories and the constructs within the transfer of training model, their simplified model maintained the same variables and relationships as Holton's (1996) earlier model, which indicates a trend towards consistency and a step closer to the development of a theory of training transfer.

Although the process of developing a theory of training transfer continues, there have been several major contributions and regularities within training transfer literature. First, learning is recognized as the primary outcome variable in the training transfer process (Baldwin & Ford, 1988; Holton, 1996; Yamnill & McLean, 2001). Kirkpatrick (1959) stated that a change in job behaviour or performance will only result from training if trainees acquire new knowledge, skills and attitudes. This understanding regarding the role that learning plays in the transfer of training has continually been included in models and analysis of training transfer (Holton, Bates, & Ruona, 2000; Lim & Morris, 2006; Velada & Caetano, 2007). Second, individual and organizational performance measures are recognized as integral aspects of successful training transfer. It has repeatedly been recognized that training is of little value if the learned characteristics are not generalized to the job and are not maintained over time (Yamnill & McLean, 2001). As such, learning is of little value to an individual and an organization if it fails to improve performance. Lastly, since Baldwin and Ford (1988) first introduced a comprehensive review of

literature that captured the importance of the intervening variables in the transfer of training, they have consistently been included in subsequent empirical studies in some capacity. Whether the intervening variables have been examined individually or as a collective, they are now considered essential constructs within a theory of training transfer.

The following section will discuss the essential outcome and intervening variables within a theory of training transfer with an empirical focus. This discussion relates to Yamnill and McLean's (2001) model which is used as the empirical framework for this study (see Figure 1). As discussed above, the Yamnill and McLean (2001) model of training transfer is a simplified version of Holton's (1996) earlier model. Consequently, few empirical studies have been conducted using Yamnill and McLean's (2001) model as a framework. Instead, past empirical studies have focused on specific elements of Holton's (1996) model rather than the model in its entirety. Due to the complexity of Holton's (1996) model of training transfer, a full test of the model has not been conducted because the tools to measure all of the constructs do not exist (Holton, 2005). However, there have been studies that have focused on the relationships and constructs displayed in Yamnill and McLean's (2001) model (for example Burke & Hutchins, 2008; Lim & Morris, 2001; Russ-Eft, 2002; Tai, 2006; Velada & Caetano, 2007), which will be discussed throughout the following section.

Components of the Theory of Training Transfer

Learning as the primary outcome of training transfer. Learning has been an integral construct in the evaluation of training programs since Kirkpatrick (1959) first identified learning as the second step in the training evaluation process. Not only did

Kirkpatrick (1959) acknowledge the importance of learning in the transfer process, but he also emphasized that a change in performance will only result from training if learning takes place. As such, the learning gained through training is the main precursor and the critical outcome variable of the entire transfer of training. Velada and Caetano (2007) define learning as a measure of skill acquisition, skill improvement or attitude change, as well as the trainee's perception of the effects of the training on the acquisition of new insights. Thus, the trainee's understanding of the material and the applicability of the learned skills and attitudes are integral indicators of the learning that takes place as a result of training (Holton, Bates, & Ruona, 2000; Lim & Morris, 2006; Yamnill & McLean, 2001). Lim and Morris (2006) found that participants perceived understanding and applicability (learning) of the training material differed significantly prior to and immediately after training ($t = 0.26$, $p < 0.001$), as well as prior to and three-months after training ($t = 0.20$, $p < 0.001$). They also found a significant increase in actual learning ($t = 5.84$, $p < 0.001$) (Lim & Morris, 2006). Evidently, learning is directly influenced by training and plays an important role in the transfer of training.

Baldwin and Ford (1988) also maintained that learning played an integral role in the transfer of training process and represented a critical construct in a theory of training transfer. The maintenance and generalization of material learned through training is directly dependent on the learning and retention that occurs as a result of the training program (Baldwin & Ford, 1988). Further, Holton (1996) identified learning as the primary outcome variable that acts as an essential element of the training transfer process. In simplifying Holton's (1996) model, Yamnill and McLean (2001) further clarified the influential role that learning has in stimulating the entire transfer of training. The

evaluation of a training program is not complete without taking learning into consideration. With that, a theory of training transfer is not complete without the inclusion of the relationship between learning and performance as training outcomes.

Not only is learning the precursor for the entire transfer of training, but more specifically learning is the direct precursor to any change in individual performance that results from training (Holton, 1996). All training programs in today's workplaces are designed with the intention of improving the individual performance of its employees (Burke & Hutchins, 2008). The learning of material from a training program involves both an understanding of the concepts and an application of those concepts on the job (Baldwin & Ford, 1988). If one assumes that learning occurs as a result of training, then new competencies are created and trainee knowledge, skills, and behavior, as well as performance change (Velada, Caetano, Michel, Lyons, & Kavanagh, 2007). However, research supports the notion that the majority of training material is not transferred; with approximately 40 percent of training content being transferred back to the job immediately following training (Wexley & Latham, 2002). Further, the amount of content transferred was found to fall to 25 percent six months after the training intervention, and to 15 percent one year following training (Wexley & Latham, 2002). This not only demonstrates the need for the continual training of employees, but also suggests that as time passes, trainees are less likely to apply the learned material (Velada & Caetano, 2007: Velada et al., 2007). Based on the above, the following hypotheses regarding learning as an outcome variable in training transfer are proposed:

H_1: The level of learning (understanding and applicability) increases after a training program.

H_2: The level of learning (understanding and applicability) is highest immediately after a training program.

Individual performance as the secondary outcome of training transfer. The transfer of training is ultimately aimed at making improvements in performance through learning and taking action on that learning (Weldy, 2009). For this reason, it is imperative that specific performance measures be included in the evaluation of the transfer of training. Kirkpatrick's (1959) early model of training evaluation neglected to emphasize performance as a level of evaluation. Rather, Kirkpatrick (1959) included *behavior* as the performance-related level. However, due to the typological nature of Kirkpatrick's levels, performance was not empirically examined until later in the development of a theory of training transfer process. Baldwin and Ford (1988) emphasized the application of learned material on the job, initiating a trend towards individual performance being included as an essential measure of training transfer. Holton (1996) further supported the need to recognize performance as a training transfer outcome variable by critiquing Kirkpatrick's *reactions* level of evaluation. Holton (1996) argued that examining trainee reactions was one of the greatest flaws of Kirkpatrick's levels because it diverted attention away from the truly important training outcomes, such as performance.

The acquisition of knowledge, skills, behaviors, and attitudes through training is of little value if the learned characteristics are not generalized to the job and are not maintained over time (Yamnill & McLean, 2001). Further, learning as a result of training is of little value to an individual and an organization if it fails to increase performance. Learning is solely a means to attain the ultimate desired outcome of improved performance (Kuchinke, 1995). Learning is primarily an internal behaviour whereas

performance is an external behaviour that displays whether or not an improvement has been made due to training (Holton, 1996). As such, learning needs to be examined in combination with performance outcomes in order to encompass all areas of training transfer. Robertson and Huang (2006) found that the skills and knowledge gained through a training intervention program had a direct and significant effect on measures of individual performance ($r = 0.24$, $r = 0.61$, $r = 0.43$, $p < 0.01$). In addition, Velada and Caetano (2007) found a strong correlation between the learning that takes place as a result of training and a change in individual performance ($r = 0.53$, $p < 0.01$). As such, without making a link to a performance measure, the importance and significance of a training intervention is unjustified. The competitive and performance-driven nature of organizations demands the inclusion of individual performance measures (Fleetwood & Hesketh, 2008). The importance of individual performance as a measurement outcome and successor of learning in training transfer has led to the following proposed hypotheses:

H_3: Individual performance increases after a training program.

H_4: Individual performance is positively correlated to learning (understanding and applicability).

Organizational performance as the tertiary outcome of training transfer. Organizational performance is perhaps the most vaguely defined concept in the analysis of organizations (Sowa, Selden, & Sandfort, 2004); however, it is the most critical dependent variable of organizational research and analyses that examine effectiveness (Bayle & Robinson, 2007; Chelladurai, 1987). Despite the significance of the notion of organizational performance, the construct has eluded a clear definition and has emerged

as a very complex and controversial issue in management studies (Chelladurai, 1987; Rogers & Wright, 1998). However, since organizations are evaluated at the organizational level, rather than at the individual level, it is essential to evaluate organizational performance as an outcome of the transfer of training. The complex nature of the goals and structures of most organizations unintentionally promote a number of conflicting and confusing perspectives towards what defines organizational performance (Kaplan & Norton, 1992; Papadimitriou, 2007). This complexity demands the consideration of multiple approaches for evaluating the overall performance of an organization.

Various approaches to organizational performance exist, however the organizational literature highlights four models: *goals model* (Forbes, 1998; Koski, 1995; Shilbury & Moore, 2006), *system resources model* (Forbes, 1998; Koski, 1995), *internal process model* (Koski, 1995), and *multiple-constituency model* (Chelladurai, 1987; Herman & Renz, 1999; Herman & Renz, 2004; Papadimitriou, 2007; Wolfe, Hoeber, & Babiak, 2002; Zammuto, 1984). The *goals model* defines organizational performance based on the degree to which an organization has achieved its goals (Chelladurai, 1987) and concentrates solely on the product of the organization as a means of evaluation (Koski, 1995). The *system resources model*, on the other hand, assesses performance based on an organization's ability to obtain resources in order to sufficiently implement its programs and offer its services (Chelladurai, 1987). According to this approach, performance exemplifies an organization's ability to "exploit its environment in the acquisition of scarce and valued resources" (Chelladurai, 1987, p. 38). The *internal process model* emphasizes the internal health and efficiency of an organization (Koski,

1995), and as such, the throughput processes that translate inputs to outputs are the indicators of performance (Chelladurai, 1987). The basic underpinnings of the *internal process model* assume that the internal processes of an organization directly determine the outputs. Lastly, the *multiple-constituency model* is based on the view that several indicators of organizational performance exist based on the various constituent groups' (both internal and external) perceptions of performance (Chelladurai, 1987). As discussed, each approach to evaluating organizational performance focuses on a different aspect of an organization, making it difficult to accurately evaluate organizational performance as a whole.

Within the Canadian sport system, the evaluation of organizational performance has traditionally adopted either a *goals model* or a *system resources model* based on requirements and pressures set out by funding agencies (i.e. Sport Canada) and the federal government (Havaris & Danylchuk, 2007; Papadimitriou, 2007). As such, sport organizations are evaluated based on the degree to which they achieve their goals and their ability to obtain funds and resources to carry out their programs. Sport Canada's measures of organizational performance adopt the *goals model* and *system resources model* where high performance athlete success is the ultimate goal and the appropriate allocation of funding resources is deemed effective (Chelladurai, 1987). The combination of the *goals model* and the *system resources model* to organizational performance offers a one-dimensional representation and neglects to connect the various components of an organization (Bayle & Robinson, 2007; Chelladurai, 1987; Koski, 1995). These models of organizational performance inhibit the development of the internal capacity of sport organizations. Through the use of these models, evaluation of the internal processes and

their influence upon the efficiency of sport organizations is minimal. As a result, organizational inputs and outputs are analyzed without reference to or consideration of the throughput processes involved in the input-output relationship. This is a problematic representation of organizational performance in that the specific interactions and processes within national sport organization are not taken into account.

For-profit vs. not-for-profit organizational performance. Not only are there various models of evaluation towards organizational performance, but there are significantly different demands between the evaluation of for-profit and not-for-profit organizations. The dominant view of an organization depicts it as a rational system that acts to achieve something (Herman & Renz, 2008). However, what an organization hopes to achieve differs greatly between for-profit and not-for-profit organizations and, as such, requires a different evaluation of what constitutes superior performance (Herman & Renz, 2008). Due to the distinct financial and legal status of not-for-profit organizations, they cannot be assessed solely based on the common measures of performance witnessed in for-profit organizations, such as cost-benefit analysis and profitability (Forbes, 1998; Sowa, Selden & Sandfort, 2004). Not-for-profit performance cannot be assessed based on a sole indicator, and instead demands the multidimensional approach to the evaluation of organizational performance (Herman & Renz, 2008).

More specifically, not-for-profit organizations cannot be evaluated based on an outcome assessment model of organizational performance (Herman & Renz, 1999; Herman & Renz, 2008). An outcome-based assessment is the epitome of the *goals model* of evaluation, where organizations are evaluated based on the sum of their parts, through a single objective measure (Herman & Renz, 1999). The assumption that a single

outcome-based indicator accurately captures the processes that have contributed to that outcome represents a major flaw in organizational performance theory (Herman & Renz, 1999). Furthermore, this language suggests that the outcome-based indicators capture causality, when in reality, this represents the oversight of outcome assessments, especially in not-for-profit organizations (Herman & Renz, 1999).

The various society-driven goals and the unique financial structure of not-for-profit organizations demand a process-based approach to the evaluation of organizational performance when compared to for-profit organizations. Lessons from the for-profit sector relating to strategic planning, financial strategies, marketing and information technology initiatives have proven to be very useful and have contributed to the growth and success of the not-for-profit sector (Sawhill & Williamson, 2001). However, not-for-profit organizations are unable to follow the for-profit model of performance evaluation due to the multitude of performance indicators and the lack of emphasis on profitability (Sawhill & Williamson, 2001; Sowa, Selden & Sandfort, 2004). This differentiation presents the foundational distinction to performance evaluation in not-for-profit organizations (Herman & Renz, 2008). Despite this distinction, not-for-profit organizations have attempted to adopt traditional for-profit forms of evaluation in an effort to achieve or maintain their legitimacy (Herman & Renz, 2008). This has resulted in a limited and inaccurate representation of performance in not-for-profit organizations by placing too much focus on the financial bottom line (Herman & Renz, 2008; Sowa et al., 2004). In order to capture the complexities and accurately evaluate the organizational performance of not-for-profit organizations, a process-based approach that recognizes the internal processes must be implemented.

Performance evaluation in national sport organizations. Training practices aim to provide, obtain and improve necessary skills in order to increase the workforce's contribution to organizational performance (Nikandrou, Brinia & Bereri, 2009). The underpinnings of training adopt an *internal processes model* towards performance, both at the individual and organizational levels, because they focus on promoting internal growth and development. As such, when assessing the organizational performance of national sport organizations prior to and following a training intervention program, the internal processes model provides an appropriate evaluation approach (Burke & Hutchins, 2008). An *internal process model* recognizes "…the internal logic and consistency among the throughput processes of the organization since they convert an organization's inputs into desired outputs" (Chelladurai, 1987, p. 38). A focus is placed on the internal health and efficiency of the organization, which recognizes the importance of the internal operations of a national sport organization, such as decision-making, innovation and continual learning, and employee competencies and productivity (Kaplan & Norton, 1992; Koski, 1995). The nature of the training program and the desired outcomes create a guideline for an evaluation of organizational performance. A training program that focuses on developing the decision-making, governance, and problem solving skills of national sport organization managers contributes to the throughput processes of the organization (Koski, 1995). Within the sport system, the *internal processes model* recognizes that the strategies and processes of NSO leaders directly relate to the performance outcomes of the athletes. As such, it is inaccurate to evaluate the organizational performance of NSOs without recognition of these important elements.

The emphasis on the internal processes of an organization as a means of evaluation supports the following hypotheses:

H_5: Organizational performance increases after a training program.

H_6: Organizational performance is positively correlated to individual performance.

Mediating factors in the transfer of training. Literature concerning the evaluation of training programs and the transfer of training argues that Kirkpatrick's (1959) four-level model of training evaluation neglects to include the intervening factors that may affect each of the levels, or phases, of the transfer of training (Holton, 1996). Holton (1996) argues that "no evaluation model can be validated without measuring and accounting for the effects of intervening variables" (p. 7). Since Baldwin and Ford's (1988) review of the state of training evaluation models, researchers believe a combination of influential factors mediate the transfer of training (Burke & Hutchins, 2008; Cheng & Hampson, 2008; Coyne, 2008; Lim, 2000; Lim & Morris, 2006; Velada, Caetano, Michel, Lyons, & Kavanagh, 2007). Generally, these mediating factors relate to three categories: trainee motivation, training design, and organizational climate and refer to a range of cognitive and psychomotor constructs, design and training content, and support and opportunity to apply training material, respectively (Baldwin & Ford, 1988; Holton, Bates, & Ruona, 2000; Lim & Morris, 2006; Russ-Eft, 2002; Velada et al., 2007; Yamnill & McLean, 2001). These factors can either promote or inhibit the transfer of learned material to on the job performance by influencing the causal relationship among the variables (Hoyle & Kenny, 1999; Lim & Morris, 2006). It is essential to include these

factors in the analysis of training transfer in order to move beyond the question of whether training works, to why training works (Yamnill & McLean, 2005).

Collectively these factors form the *transfer system*, which is defined as "factors in the person, training, and organization that influence transfer of learning to job performance" (Holton, Bates, & Ruona, 2000, p. 335-336). As Yamnill and McLean (2001) presented in their simplified transfer of training model, motivation to transfer, the design of the training program, and organizational climate mediate the transfer of learned material to changes in individual performance. In other words, for learning to translate to changes in individual performance, the individual must be motivated and the design of the training program and the organizational climate must promote the adoption of these changes (Egan, Yang, & Bartlett, 2004). The mediating factors are important in the transfer of training model because they concern the mechanisms and processes that help explain the causal relationship between learning and performance (Hoyle & Kenny, 1999). As Holton (1996) outlined, learning is expected to lead to a change in individual performance only when these three primary influences on transfer are at appropriate levels. To fully understand and analyze how learning results in changes in individual and organizational performance of national sport organizations, the three mediating factors must be incorporated within the transfer of training model.

Research surrounding the *transfer system* and how it relates to Canadian national sport organizations is minimal. The motivation to transfer, training design, and organizational climate of NSO managers and training programs designed for NSO managers have yet to be examined as a comprehensive system of factors that influence the transfer of learned material to individual and organizational performance in the sport

context. However, changes in the Canadian sport system, such as increased professionalization and an increasingly demanding sport system have brought the importance of these factors to the forefront. Combined with extensive research surrounding training evaluation in the business sector and the progression towards a theory of training transfer, the *transfer system* is clearly an integral element of the overall training transfer process.

Mediating factors and individual level of control. The mediating factors appropriately capture the different levels of individual control that play a role in the transfer of training. Motivation to transfer is an internal control; whereas training design and organizational climate are both external controls. On one hand, individuals participating in a training program have a high level of control over their motivation towards the training program and the transfer of the training material. On the other hand, the training design factors are determined by external influences (Velada, Caetano, Michel, Lyons & Kavanagh, 2007), leaving the individual with no control over his/her influence in the transfer of training. Similarly, organizational climate externally controls the transfer of training but can be shaped by the interactions between the individuals and their organization (Rouiller & Goldstein, 1993). As such, the individuals have a low level of control over the influence of their organization's climate. In analyzing these three mediators in the transfer of training, the various levels of control are captured and recognized as potentially influencing factors.

Motivation to transfer as a mediating variable. Motivation is essential for training transfer to occur (Gegenfurtner, Veermans, Festner, & Gruber, 2009). In this study, motivation to transfer refers to the NSO manager's desire to use the knowledge

and skills learned through training when he/she is on the job (Colquitt, LePine, & Noe, 2000). Motivation to transfer is a broad concept and encompasses the various characteristics of the training process, such as motivation to attend the training program, motivation to learn the material, and motivation to apply the learned material to the specific job tasks and responsibilities (Gegenfurtner et al., 2009; Noe & Schmitt, 1986). Motivation to transfer follows a classification system of individual, organizational, and training-related factors before, during, and after training that combine to demonstrate the overall motivation to transfer (Gegenfurtner et al., 2009). Despite its wording, motivation to transfer encompasses all areas of motivation associated with training. For example, an attendee's desire to attend a training program is directly linked to the individual's overall motivation to transfer the material (Seyler, Holton III, Bates, Burnett, & Carvalho, 1998). Since Noe (1986) first introduced motivation as an integral variable in the transfer of training and suggested that motivation to transfer mediates the relation between learning and behaviour change, the construct has been analyzed in a variety of capacities.

There has been extensive research and theoretical support surrounding motivation at every level and among all constructs in the transfer of training (Holton, 1996; Smith, Jayasuriya, Caputi, & Hammer, 2008; Velada, Caetano, Michel, Lyons, & Kavanagh, 2007). Motivation is one of the most complex aspects of human behaviour and as a result, can be explored from various dimensions (Gegenfurtner, Veermans, Festner, & Gruber, 2009). For instance, motivational research can focus on intrinsic and extrinsic motivation, goal intentions, implementation intentions, expectancies and valences, and so on. Similarly, in the training transfer context, motivation encompasses a variety of these dimensions (Gegenfurtner et al., 2009). However, the majority of research on motivation

to transfer focuses on a one-dimensional analysis of motivation, using theoretical support for those single dimensions. For example, expectancy theory, which includes valence, instrumentality and expectancy, is used as a framework for transfer motivation. However, it can be argued that this theory is limited in scope, in that it implies determinism and that individuals equally consider these three components of expectancy equally in determining their behaviour (Gegenfurtner et al., 2009). Furthermore, previous studies have focused on individual aspects of motivation, such as trainees' confidence and expected utility (Foxon, 1997), rather than capturing the motivation construct in its entirety. Based on the complex nature of motivation in determining human behaviour, a multi-dimensional approach to motivation to transfer offers a more complete description of why trainees are motivated to transfer learning to performance. An approach that recognizes the motivational factors that affect training transfer before, during, and after the training should be incorporated into the analysis.

In an extensive synthesis of motivation to transfer literature surrounding theoretical and empirical findings, Gegenfurtner, Veermans, Festner and Gruber (2009) outline seven components that represent the antecedents, correlates, and consequences of transfer motivation as it relates to changes in performance. This review strongly supports motivation to transfer as a summative construct that includes all associated elements of motivation. It recognizes that factors at all stages of the training process have an impact on the entire motivation to transfer construct. In addition, these components closely relate to the individual characteristics of NSO managers and the structural and functional aspects of national sport organizations. First, prior to attending a training program, trainees may or may not be motivated to transfer what they are going to learn on the job,

depending on individual attitudes and attributes (Gegenfurtner et al., 2009). Participants who enter training with higher levels of motivation are more likely to learn and apply the concepts to their job, and, as a result, perform better (Seyler, Holton III, Bates, Burnett, & Carvalho, 1998). Second, the design of the training program determines the extent a trainee is motivated to transfer learning to the workplace (Gegenfurtner et al., 2009). Third, prior to the training program, the organizational context already functions to promote or hinder the development of transfer motivation (Gegenfurtner et al., 2009).

Fourth, while attending the training program, the trainees' motivation is shaped by the instruction and conditions of the training program (Gegenfurtner, Veermans, Festner, & Gruber, 2009). Fifth, following the training program, individual factors in response to the training program determine if trainees are motivated to initiate and execute transfer actions (Gegenfurtner et al., 2009). Sixth, after training, trainee perceptions of the work environment facilitate or inhibit their motivation to transfer learning on the job (Gegenfurtner et al., 2009). For example, sport organizations that promote learning and are conducive to change will motivate their managers to attend and maximize learning through training programs. Last, motivation to transfer precedes transfer of training to the workplace (Gegenfurtner et al., 2009). Evidently, the motivation of NSO managers plays an important role in the transfer of training, acting as a mediator and predictor of the transfer of learning to performance.

Without motivation to transfer learned material to individual performance, the training program cannot be effective as there will be no change in behaviour (Clark, Dobbins, & Ladd, 1993; Tai, 2006). Motivation to transfer is an integral mediator between learning and performance in a dualistic manner. On one hand, trainees may find

opportunities to use what is learned through training on the job, but if they are not motivated, they will not apply the learned material at work (Latham, 2007). On the other hand, trainees may find no opportunities, but if they are motivated to transfer, they will actively seek out opportunities to apply the learned material on the job (Gegenfurtner, Veermans, Festner, & Gruber, 2009). Axtell, Maitlis and Yearta (1997), in a self-reported learning study, found that learning and transfer motivation were significantly and positively correlated ($r = 0.40$), concluding that high levels of learning result in high levels of motivation to transfer the learned content on the job. The level of motivation that NSO managers exhibit towards attending a training program and applying the learned material on the job determines any change in individual or organizational performance that is witnessed.

Training design as a mediating variable. The design of the training program also acts as an important mediating factor in the transfer of training model. Training design refers to the degree to which the program has been designed to meet the needs of the trainees and delivered in such a way that provides trainees with the ability to transfer the material back to the job (Holton, Bates, & Ruona, 2000; Velada, Caetano, Michel, Lyons, & Kavanagh, 2007). A potential cause of failure to transfer is that the design of the training does not provide the trainee with the ability to transfer the learning (Holton, 1996), "[t]hat is, cognitive learning may well occur but the program participants may not have an opportunity to practice the training in a job context or may not be taught the manner in which to apply their new knowledge on the job" (p. 14). The content design and instructional methods define the overall training design construct (Lim & Morris, 2006). Training transfer is greater if the content is closely aligned with job tasks and

requirements (Baldwin & Ford, 1988; Velada et al., 2007) and when general rules and principles of application are covered with greater specificity (Lim & Morris, 2006). Instructional methods that include practical applications, action planning, and facilitator feedback maximize the transfer of training and changes in performance (Holton et al., 2000; Lim & Morris, 2006). Consequently, the facilitators and location of the training program, the training material, and the structure and flow of the program determine the degree of effectiveness of the design of the training program (Baldwin & Ford, 1988; Holton et al., 2000; Lim & Morris, 2006). Training design factors are some of the most influential factors affecting the transfer of learning to individual performance (Lim & Morris, 2006).

A large portion of research on training transfer has focused on the incorporation of learning principles in the design of training programs (Baldwin & Ford, 1988). The majority of research has focused on two specific principles: identical elements and general principles (Baldwin & Ford, 1988; Yamnill & McLean, 2001). Identical elements refers to the concept of introducing tasks in training that are identical to those on the job, arguing that there will be a high transfer because those tasks will be imitated in a work setting (Yamnill & McLean, 2001). General principles suggest that training should focus on the general principles necessary to learn a task that the learner can then apply to solve problems in a work setting (Yamnill & McLean, 2001). Despite the fact that these learning principles offer an effective framework for the development of training programs, the majority of training programs encompass both of these principles and are developed based on outcome goals (Axtell, Maitlis, & Yearta, 1997). For example, on one hand, if a training program focuses on specific technical skills, the identical

principles of training design would be effective. On the other hand, a training program that focuses on risk management strategies may incorporate both specific methods for identifying and tracking risks, as well as general principles surrounding how to manage risks within the workplace. As a result, both learning principles are incorporated in the design of the training program and evaluating training design solely based on one learning principle would be inaccurate. Consequently, researchers have moved away from focusing on the learning principles and particular instructional techniques in designing training programs (Alvarez, Salas, & Garofano, 2004). Instead, the focus has shifted towards identifying packages that combine several of these characteristics that are most conducive for learning (Alvarez et al., 2004). As a result, evaluation that follows a learning principles approach would not capture the elements of the training design.

The relationship between training design and training transfer is perhaps best supported through Holton, Bates, and Ruona's (2000) extensive research that found that trainees are more likely to transfer the training content to the work context when they perceive that the training program was designed and delivered in such a way that maximizes the trainee's ability to transfer the training to the job. If new skills are to be transferred to the workplace, trainees must feel that the design of the training program was relevant to their jobs and was delivered in an efficient manner (Axtell, Maitlis, & Yearta, 1997). Velada, Caetano, Michel, Lyons and Kavanagh (2007) found that training design significantly and positively predicted the transfer of training (β=0.31, p<0.01). The design of the training program plays an important role in transferring the learning that takes place to a change in performance, which further supports the placement of

training design as a mediator between learning and performance in a theory of training transfer.

Organizational climate as a mediating variable. Motivated trainees attending an effectively designed training program require organizational support in order for positive change to occur (Bunch, 2007). Factors of organizational climate capture the importance of external influences in transferring learning into performance and can have a powerful impact on the extent to which newly acquired skills are used on the job (Martin, 2010; Velada, Caetano, Michel, Lyons, & Kavanagh, 2007). Organizational climate (OC) refers to "the work and environmental factors that inhibit, reduce, or promote training transfer" (Lim & Morris, 2006, p. 90). OC characteristics include the opportunity for trainees to use learned material, supervisory and peer feedback, an environment conducive to continuous learning, and an organization's overall willingness to adopt change (Baldwin & Ford, 1988; Coyne, 2008; Lim & Morris, 2006; Velada et al., 2007; Yamnill & McLean, 2001). Several empirical studies support the notion that opportunity to use learned material (Lim, 2000), positive feedback from superiors and peers (Velada et al., 2007), and the promotion of continuous learning (Holton, 1996) and change (Lim & Morris, 2006) contribute to the successful transfer of training, resulting in positive outcomes. Organizational climate factors can either inhibit or enable the transfer of learned material to changes in individual and organizational performance.

Since Baldwin and Ford (1988) originally introduced work environment as a factor in the transfer process, subsequent studies have further explored the various aspects of work environment that contribute to the positive transfer of training. Baldwin and Ford (1988) identified support and opportunity to use as sub-factors of the work environment

construct. However, this only captured a fraction of the factors that need to be considered in defining work environment, more specifically organizational climate (Rouiller & Goldstein, 1993). Expanding on Rouiller and Goldstein's (1993) study of the relationship between organizational climate and positive transfer of training, Holton, Bates, Seyler and Carvalho (1997) attempted to further define a valid construct of organizational climate. Prior to identifying the factors of organizational climate, several assumptions that accompany the use of climate as a construct in the transfer of training were identified. First, climate refers to a psychological description of the work environment, recognizing that organizational climate is not the actual work environment, but is the individual's interpretation of how the environment affects job behaviours (Holton et al., 1997). Second, despite being an individual level variable, this construct is assumed to be generalizable across organizational groups (Holton et al., 1997). Lastly, it is assumed that a limited number of factors form the organizational climate structure (Holton et al., 1997).

With these assumptions in mind, two general types of workplace cues were identified that encompass all related factors and define the overall organizational climate construct (Holton, Bates, Seyler, & Carvalho, 1997). The first set of workplace cues, situational, refers to those that remind trainees of their training or provide an opportunity to use their training once they return to their jobs (Holton et al., 1997; Rouiller & Goldstein, 1993). Within the situational cues factor, four types of cues were identified: goal cues, social cues, task cues, and self-control cues, which, respectively, refer to reminders to use training, group membership or behaviour and influence process cues, the

design and nature of the job itself, and various self-control processes that permit the use of what was learned (Rouiller & Goldstein, 1993).

The second set of workplace cues, consequence, are those related to on-the-job outcomes that affect the extent to which training is transferred and include positive feedback, negative feedback, punishment, and no feedback (Rouiller & Goldstein, 1993). Positive and negative feedback refer to whether the trainees are given positive or negative information about their use of the learned material (Rouiller & Goldstein, 1993). If the trainees are punished for using the trained behaviour or if no information is given to the trainee regarding the use of the learned behaviour, the transfer of training will be affected (Holton, Bates, Seyler, & Carvalho, 1997). In order to capture the full organizational climate construct all factors of situational and consequence cues must be examined (Cromwell & Kolb, 2004; Holton et al., 1997; Rouiller & Goldstein, 1993).

In one of the first studies analyzing organizational climate with all situational and consequence cues and their influence upon the transfer of training, Rouiller and Goldstein (1993) found that both the degree of learning and the organizational climate directly affected the degree of transfer behaviour. Subsequent studies, have since, further supported these early findings. Tracey, Tannenbaum and Kavanagh (1995) found that organizational climate had a direct effect on post-training behaviours. Cromwell and Kolb (2004) found that trainees who reported receiving higher levels of support in the work environment indicated they were applying, to a higher extent, the knowledge and skills learned in the training program. Martin (2010) found that trainees in a more favourable workplace environment showed greater combined performance improvement than those in an unfavourable environment ($F = 3.71$, $p < 0.05$). The individual

workplace cues that make up the organizational climate construct have also been examined in relation to the transfer of training. Hawley and Barnard (2005) found that peer support was an important factor influencing positive transfer and that a lack of manager support negatively impacted transfer. Velada, Caetano, Michel, Lyons and Kavanagh (2007) found a significant and positive correlation between supervisor support and training transfer ($r = 0.31$, $p < 0.001$) and that feedback significantly predicted the transfer of training ($\beta = 0.42$, $p < 0.01$). Martin (2010) also found that trainees with greater peer support showed greater improvement than those with less peer support ($F = 53.22$, $p < 0.001$). Further, Lim & Morris (2006) found that training applicability three months following the training intervention was significantly ($r = 0.485$, $p < 0.001$) influenced by the participants' organizational climate. It is evident that organizational climate is an integral construct in mediating the transfer of learning to performance.

As discussed, motivation to transfer, training design, and organizational climate play integral roles in facilitating the transfer of learning to performance and are essential elements of a theory of training transfer. Based on these assertions, the following hypothesis was developed:

> H_7: Motivation to transfer, training design, and organizational climate mediate the relationship between learning and individual performance.

A summary of all hypotheses and the training transfer model are provided in Figure 1.

Significance of Proposed Research

Extensive research in the field of human resource management exists surrounding the transfer of training, with a focus on training evaluation models that include learning and performance variables (Baldwin & Ford, 1988; Cheng & Hampson, 2008). Although

extensive research exists in the area of training, there are four specific areas that require further inquiry. First, as discussed, the development of a theory of training transfer is an on-going process. Researchers have displayed consistencies surrounding the factors that should be included in a theory of training transfer (Baldwin & Ford, 1988; Holton, 1996; Holton, Bates, & Ruona, 2000; Lim & Morris, 2006; Velada & Caetano, 2007; Yamnill & McLean, 2001). However, these factors have been used in a variety of models rather than a universal theoretical framework. As such, this study aims to contribute to the development of a theory of training transfer by empirically analyzing the intervening factors involved in the transfer of training as part of one model.

Second, the majority of this research focuses on corporate sector organizations (McHargue, 2003), where training programs are implemented as a tool to maximize profits and efficiency (Swanson & Arnold, 1996). However, there is a growing demand for research that explores training as it relates to the non-profit sector as non-profit organizations have developed complexity, significance and increased responsibility (Forbes, 1998; McHargue, 2003; Papadimitriou, 2007). This study explored a training program that is designed for managers who work in non-profit Canadian national sport organizations.

Third, although extensive research discusses the transfer of training, performance is not always measured as a final outcome of the training intervention. Research shows that training design, motivation, and organizational climate contribute to the learning that results from training (Baldwin & Ford, 1988; Coyne, 2008; Egan, Yang, & Bartlett, 2004; Ford, Smith, Weissbein, Gully & Salas, 1998; Lim & Morris, 2006; Velada, Caetano, Michel, Lyons, & Kavanagh, 2007). However, research analyzing the role that these

intervening factors play in the transfer of learning to performance is minimal. As such, this proposed research explores, not only learning as an outcome of training, but also individual and organizational performance as outcomes of training. Further, the training design, motivation, and organizational climate are examined as mediating factors between learning and performance.

Fourth, within the context of sport organizations, human resource management, specifically training, is a fairly new principle with very little practical application (Doherty, 1998). The increased professionalization of national sport organizations (MacIntosh & Whitson, 1990) requires the incorporation of professional development practices, such as training programs, in order to provide NSO leaders with the capacity to meet the needs of the demanding Canadian sport sector (O'Brien & Slack, 2004). The current lack of focus on the off-the-field elements of sport development leaves NSO leaders with inadequate training experience. NSOs have few opportunities to participate in training programs and, as a result, sport leaders are left without the necessary problem-solving and decision-making skills that are integral to the effective administration of sport in Canada. NSO leaders are inherently focused on securing funding and producing success at the international level (D. Bell-Laroche, personal communication, 2010). As such, off-the-field development practices are set aside and not recognized as fundamental elements of a successful sport system. This proposed study will explore aspects of the transfer of training in an attempt to portray the importance of training practices as they relate to the performance of NSO managers, as well as the performance of NSOs.

Chapter Three: Methods

Research Design

A quantitative research methodology was used for this study. The data collection followed a quasi-experimental, longitudinal design with multiple measures – pre-training, post-training[1], and post-training[2]. The data collection followed a timeline similar to an intervention model, where participants completed a baseline survey, underwent an intervention and completed a second survey in order to uncover the impact of the intervention. The participants in this study completed a questionnaire prior to attending a Risk Management Workshop (RMW), which was the training program for this study and acted as the intervention. Immediately following the RMW, the participants completed a second questionnaire, followed by a third questionnaire three months after attending the RMW. Participants were also given the opportunity to further elaborate on their survey responses through several open-ended questions at each of the three time measures. The RMW was developed specifically for national and provincial sport organization managers and executive volunteers and focused on identifying, discussing, and generating solutions for the risks associated with each specific sport organization and the overall Canadian sport system.

Training Program

Leaders in Canadian national sport organizations (NSO) face many challenges and difficulties when it comes to effectively organizing and administering sport, such as securing funding, maintaining athlete membership and fostering national success. The Risk Management Project (RMP) was developed by two expert sport consultants as a tool to improve elements of sport administration relating to effective risk management. Risk

management is defined as a collection of tools that builds organizational capacity through improved governance, dispute management, and business management (Bell-Laroche, 2007). The developers of the RMP followed an approach that moved away from the traditional mentality towards risk management, in which risk is defined by elements that can cause harm (Bell-Laroche & Corbett, 2008). Instead, the RMP defines risks as the factors that can interfere with the achievement of objectives (Bell-Laroche & Corbett, 2008). As such, risks are not only negative or harmful, but can also include the positive components that distract the organization from remaining focused on its strategic objectives (Bell-Laroche & Corbett, 2008). The RMP was created in collaboration with True Sport, a national movement working towards a positive, meaningful and enriching sport experience for all participants (Bell-Laroche, 2007). The RMP was developed following a thorough review of national and international risk management best practices and in-depth consultations with experts in the area of risk management (Bell-Laroche, 2007). The RMP includes a strategic 10-year plan detailing the progression of the project from its development and pilot initiatives to implementation at the national sport organization (NSO) level, provincial sport organization (PSO) level, grass-roots and club sport organization levels, and, finally, at the general public level (Bell-Laroche, 2007).

The Risk Management Project is currently in Phase 2 of its implementation. Phase 1 involved a pilot study initiative with eight national sport organizations and one club level sport organization. The pilot study tested the project model and approach, and contributed to further understanding and development of all steps of the RMP (Bell-Laroche, 2007). The pilot study uncovered best practices to engage national sport organizations (NSO) and established a training program format and design that is most

beneficial for the participants. Phase 2 of the strategic plan involves the implementation of the project at the NSO level. The goal of Phase 2 is to engage all NSOs and to implement the RMP model and approach based on the best practices and recommendations provided through the pilot initiatives (Bell-Laroche, 2007).

The Risk Management Project (RMP) consists of six steps which ensure the commitment and involvement of the participating sport organizations. Steps 1 (*demonstrating commitment*) and 2 (*assigning resources*) involve the initial coordination between the sport organization, the facilitators, and True Sport. The participating organization is required to provide organizational documents and coordinate a task group that will participate in the RMP. Step 3 (*assessing the environment*) involves the Risk Management Workshop (RMW), where the task group works through the workshop to identify and assess risks facing the organization, as well as develop strategies to evaluate, treat, and monitor those risks (Bell-Laroche, 2007). Steps 4 (*implementing the plan*), 5 (*communicating and educating*), and 6 (*monitoring, reporting and sharing*) involve the development of a plan to manage the risks identified in the RMP and continual commitment, communication, and reporting of successes and challenges in implementing the strategies (Bell-Laroche, 2007).

The Risk Management Workshop (RMW – step 3), which acted as the intervention for this study, is an expert-led workshop that allows a national sport organization's task group to identify and assess the potential risks that its organization may face in order to uncover those that are most significant and to determine strategies to deal with these risks (Bell-Laroche, 2007). At the end of the workshop, the participating NSO receives a 'Risk Register' and proposed risk treatment measures to facilitate the

adoption and tracking of risk management strategies by senior staff and executive volunteers within the organization (Bell-Laroche, 2007). The RMW is a two day workshop that involves between five and seven of the senior staff and volunteers from one NSO. This format is utilized because the facilitators found the training program more beneficial to participants when it was focused on a single sport and more influential when the top managers and volunteer executives were in attendance (D. Bell-Laroche, personal communication, 2010).

Participants

All participants in the Risk Management Workshop were invited to participate in this research study. The Canadian sport system includes 56 national sport organizations, of which five were utilized in this study. The participants in each training program were the senior staff and volunteers in their NSO. The NSOs that participated in the study ranged in size from three to 59 staff members and 2,500 to 350,000 registered members (membership and board/staff ratio). The participating organizations also ranged in the age of the organization and sport type (individual/team and winter/summer distinctions). An overview of the NSO characteristics is provided in Appendix A. Each workshop was tailored to a specific NSO, where between five and seven of the highest level employees and volunteer executives attended. Given that all attendees were invited to participate, there were no age or gender preferences.

Item Development

In order to thoroughly and accurately examine the training transfer of the Risk Management Workshop (RMW), the measurement tool used followed a content-specific design. Specific survey items were developed in order to ensure that the appropriate

RMW objectives were captured in the measurement of all variables. In developing new items, it is imperative to ensure that survey items are valid. Validity, in quantitative methodology, refers to the extent to which any measuring instrument measures what it is intended to measure (Messick, 1995). The measuring instrument itself is not validated, but the measuring instrument in relation to the purpose for which it is being used is validated (Messick, 1995). As such, three types of validity were addressed in the development of the survey items for this study – face validity, construct validity, and concurrent validity. Face validity is concerned with how a measure appears and whether the format and wording of the measure is easily understood by the participants and the researcher (Brinberg & Kidder, 1982). Construct validity refers to whether an agreement exists between theoretical concepts and the specific measurements used in data collection (Brinberg & Kidder, 1982). In other words, whether an item measures what it is supposed to measure based on theoretical and conceptual implications.

Concurrent validity is a type of criterion-related validity and is concerned with how a measure compares with other scales of similar variables (Brinberg & Keller, 1982). Here, data are compared with results surrounding the variables used in a similar context and a correlation is found with a contemporary criterion (Cronbach & Meehl, 1955) to demonstrate that the instrument provides valid results. In addition, it is important to ensure that the data produce reliable results. Reliability refers to the extent to which an experiment or measuring procedure yields the same result on repeated trials (Carmines & Zeller, 1979). More specifically, the internal consistency (Cronbach's α) is a measure of the precision of the measuring instruments to ensure that the items assess the same characteristic or quality (Carmines & Zeller, 1979).

Four strategies of item development were considered in order to gather and produce accurate results that were in agreement with the three types of validity outlined above. First, the evaluation of the RMW followed a content-specific design in order to ensure applicability of each measure. Each item and measure was designed to correspond with the specific content areas of the RMW training program (Lim & Morris, 2006). In order to evaluate the learning that takes place as a result of a training program, the specific content areas that are covered during training must be incorporated as measures of learning. For example, the RMW discussed how to utilize risk management strategies to improve dispute resolution. This specific item must be included in the evaluation framework in order to accurately capture the learning that takes place in the RMW.

Second, the measures included in the survey were supported by literature. Training transfer literature promotes the use of content-specific measures, the training transfer variables included in this study, and the use of the 5-point Likert scale (Downing & Haladyna, 1997; Hinkin, 1995; Lim & Morris, 2006; Yamnill & McLean, 2001). Learning, individual performance, and organizational performance were measured as training outcomes, while training design, motivation to transfer and organizational climate were measured as mediating factors in the transfer of training. These factors are commonly included and extensively supported in training transfer and training evaluation models (Baldwin & Ford, 1988; Lim & Morris, 2006; Yamnill & McLean, 2001). The 5-point Likert scale generates accurate variance among respondents and provides the highest coefficient alpha reliability when compared with 4-point and 7-point scales (Hinkin, 1995). Thus, the variables and the scale developed for this study were strongly supported in the literature, contributing to the construct validity of the developed items.

Third, the proposed measures for this study were created through continual correspondence with the creators and facilitators of the RMW. Consulting with experts in the field of study is an established technique to improve a data collection instrument (Davis, 1992). The creators and facilitators of the RMW are experts in the field of risk management, sport consultation, and workshop communication. These experts were involved in creating and revising the measures throughout the entire item development process. The ongoing communication allowed for a strong match between the measures and the content areas of the RMW. A continual consultation permits consistent feedback from experts in both the content area and in workshop evaluation (Davis, 1992). Insight into the responsibilities of national sport organization managers also allowed for the development of appropriate and accurate performance measures. The feedback from experts ensured that each item measured what it was intended to measure, contributing to the construct validity of the measures.

Lastly, a pilot study was conducted as a final step in the item development process. Davis (1992) outlines that, following continuous review with experts in the field of study, pilot testing the instrument is the final step in developing validity around a new instrument. A pilot test enhances the validity of the items and collects item performance data or feedback (Downing & Haladyna, 1997). More specifically, a pilot test ensures that each measure and the overall questionnaire have face validity. Six of the senior staff and volunteer executives from a Canadian NSO participated in the pilot study and completed the pre-training survey (Stage 1) and the post-training[1] survey (Stage 2). Following the workshop and the completion of the surveys, the participants provided feedback regarding the wording of the items, suggestions to improve clarity, and the

length of the survey. In addition, the researcher attended a two-day RMW and was able to gather further insight into the content areas covered throughout the workshop. All suggestions and revisions resulting from the pilot study were taken into consideration and changes were made. The four strategies of item development discussed above contributed to the development of measures that produce accurate and reliable results. The development of each item is discussed in greater detail below.

Measures

Demographics. Demographic variables were gathered for descriptive purposes and as tools to ensure 'pre' and 'post' data were matched across all data collection stages. Demographic variables included age, gender, organization, educational background, work status, and years of employment.

Learning. In order to measure the learning of each participant as a result of the training program, both *understanding* and *applicability* of the training content were measured as indicators of overall learning (Lim & Morris, 2006). The items for understanding and applicability were developed based on the specific content areas of the Risk Management Workshop. In analyzing the learning that takes place as a result of training, Lim and Morris (2006) measured the understanding and applicability of a financial management training program using specific content areas of the training program. For example, the understanding and applicability of the "free cash flow calculation" (p. 108) was measured as an item of learning (Lim & Morris, 2006). In the case of the instrument developed for this study, specific content areas of the training program were included. For example, the understanding and applicability of "how to identify risks" was measured as an item of learning.

Understanding. Participants answered a series of 18 questions relating to their level of understanding of the various content areas of the training program. Following the stem "please rate your level of understanding for each of the following subject areas" participants indicated on a 5-point Likert scale which response best represented their level of understanding, ranging from 1 (do not understand) to 5 (completely understand). For example, one item of understanding stated: "how to utilize tools to improve dispute resolution," and in response participants rated their level of understanding on the 5-point Likert scale.

Applicability. Participants answered a series of 18 questions relating to the extent to which each of the training subject areas was applicable to their job. The 18 questions were the same as those listed for understanding because they represented the content areas of the training program which reflect the overall learning (Lim & Morris, 2006). Following the stem "please rate the extent to which each of the following subject areas is applicable to your job" participants indicated their level of applicability on a 5-point Likert scale, ranging from 1 (not applicable) to 5 (completely applicable). For example, one item of applicability stated: "how to utilize tools to improve dispute resolution," and in response participants rated their perceived level of applicability on the 5-point Likert scale. The 5-point Likert scale provided an effective range of responses from which a participant could choose, and allowed for a mid-range response (Chatzoglou, Sarigiannidis, Vraimaki, & Diamatidis, 2009; Kirwan & Birchall, 2006; Warr, Allan, & Birdi, 1999). To further the evaluation of learning at each of the three time-series, participants also responded to two open-ended questions relating to their understanding

and the applicability of the RMW concepts. The open-ended questions allowed for a more detailed and personalized response or reaction to those constructs.

Learning is an essential measure of the transfer of training and represented the primary outcome of the training program (Baldwin & Ford, 1988; Kirwan & Birchall, 2006; Lim & Morris, 2006; Yamnill & McLean, 2001). If learning does not occur as a result of the training program, the training intervention is ineffective and no changes in performance occur. Thus, learning was measured in terms of both *understanding* and *applicability* of the subject areas and reflected the primary outcome of the training program and the direct precursor to individual and organizational performance (Holton, Bates, & Ruona, 2000; Kuchinke, 1995; Lim & Morris, 2006).

Individual performance. Participants answered a series of five (5) questions relating to their individual performance of risk management job tasks and responsibilities. Following the stem "please rate your level of performance for the following areas" participants indicated on a 5-point Likert scale which response best represented their level of performance, ranging from 1 (poor performance) to 5 (excellent performance). For example, one item of individual performance stated: "ability to effectively analyze problems that you face in your job," and in response participants rated their level of performance on the 5-point Likert scale. To further the evaluation of individual performance at each of the three time-series, participants also responded to an open-ended question relating to their individual performance. This provided participants with the opportunity to further elaborate on whether the RMW influenced their individual performance.

Changes in individual performance were a secondary outcome to the training intervention program (Yamnill & McLean, 2001). In order for training to be valuable it must result in a change in individual performance (Holton, Bates, & Ruona, 2000; Kuchinke, 1995; Lim & Morris, 2006). Robertson and Huang (2006) found that the skills and knowledge gained through a training intervention program had a direct effect on measures of individual performance. Further, individual performance acted as an antecedent to changes in organizational performance (Weldy, 2009; Yamnill & McLean, 2001) demonstrating a significant relationship between individual performance and measures of organizational performance (Robertson & Huang, 2006). Each individual performance survey item was closely aligned with the goals and objectives of the RMW and the performance measures related to risk management. The measure of individual performance was an essential outcome in the transfer of training.

Organizational performance. Participants responded to a series of five (5) questions related to risk management performance at the organizational level. Participants rated their organization's performance on a 5-point Likert scale, ranging from 1 (poor performance) to 5 (excellent performance). Each item began with the following stem "please rate your organization's level of performance for the following areas." Items reflected areas of organizational performance relating to and reflecting risk management strategies. For example, one item of organizational performance stated: "understanding how risk management can be applied to the organization," and in response participants rated their organization's level of performance on the 5-point Likert scale. Changes in organizational performance are the ultimate goal of training practices as the learned material is of little value unless it is transferred to changes in performance (Kuchinke,

1995). To further the evaluation of organizational performance at each of the three time-series, participants also responded to an open-ended question relating to their organizational performance. This provided participants with the opportunity to further elaborate on whether the RMW influenced their organization's performance.

Organizational performance was measured and analyzed as the tertiary outcome of the transfer of training, whereby individual performance was a necessary condition for organizational performance (Kim, 2004a). Changes in organizational performance represented the culmination of the transfer of training. In order for changes in organizational performance to occur, individuals must have, first, learned the material from the training program and, second, improved individual performance (Holton, Bates, & Ruona, 2000; Yamnill & McLean, 2001). McHargue (2003) found that changes in performance at the organizational level were significantly related to aspects of a learned organization. In addition, Wu and Fang (2010) found that learning within the organization had a strong impact on the performance of organizational tasks and responsibilities.

Motivation to transfer. Participants answered a series of five (5) items relating to the extent to which they were motivated to attend the training program and to transfer the training material. Following the stem "please rate your level of motivation for each of the following" participants rated their level of motivation on the 5-point Likert scale, ranging from 1 (very low motivation) to 5 (very high motivation) (Chatzoglou, Sarigiannidis, Vraimaki, & Diamantidis, 2009). For example, one item of motivation stated: "to apply the concepts presented in the workshop on the job," and in response participants rated their level of motivation on the 5-point Likert scale. The items for motivation to transfer

were adapted from Chatzoglou et al.'s (2009) study of intention to transfer training material, where "intent to use" and "intent to improve performance" (p. 887) were utilized as measures of motivation.

Motivation to transfer was essential for the transfer of training from learning to performance (Baldwin & Ford, 1988; Burke & Hutchins, 2008; Holton, Bates, & Ruona, 2000; Pugh & Bergin, 2006). Axtell, Maitlis and Yearta (1997), in a self-reported learning study, found that high levels of learning resulted in high levels of motivation to transfer the learned content on the job, which in turn caused changes in individual performance. The motivation to transfer measure was analyzed as a factor that mediated the transfer of learning from the training program to changes in individual performance.

Training design. Participants answered a series of six (6) questions related to the design and implementation of the training program. The items for training design were developed based on Velada, Caetano, Michel, Lyons and Kavanagh's (2007) study of the effects of training design on training transfer, where a 5-point Likert scale was used to measure the time allocated for the training program, the facility and facilitators of the program, and the preparatory steps taken prior to attending the training program. In addition, the measures were based on the specific content areas and format of the RMW. Following the stem "please rate the following workshop features" participants rated each item on a 5-point Likert scale, ranging from 1 (very poor) to 5 (very good). For example, one item of training design stated: "adequate time to learn new concepts and their applications," and in response participants rated the quality of training component on the 5-point Likert scale. This measure assessed the influence of training design upon individual performance.

Training design refers to the degree to which training is designed and delivered in a way that provides trainees with the ability to transfer learning from the training program back to the job (Velada, Caetano, Michel, Lyons, & Kavanagh, 2007). Velada et al. (2007) found that training design was a predicting variable in the transfer of training. Training design played an integral role in mediating the transfer of learning to changes in performance, at both the individual and organizational level (Bates, Holton, & Seyler, 2000; Holton, Bates, & Ruona, 2000). The training design measure was analyzed in this study as a mediating factor between the transfer of learned material and individual performance.

Organizational climate. Participants answered a series of nine (9) items that reflected elements such as peer and supervisor support for change, interest in employee development, and the presence of opportunities to implement learned material (Lim & Morris, 2006). The items of organizational climate were adapted from Lim and Morris' (2006) study of organizational climate as a contributing factor of the training transfer. For example, the items of "overall climate to adopt change" and "flexibility to apply new processes" (p. 112) were used in Lim and Morris' (2006) study and were included as items of organizational climate in this study. Following the stem "please rate the following characteristics for your NSO" participants rated each item on a 5-point Likert scale, ranging from 1 (very poor) to 5 (very good). For example, one item of organizational climate stated: "supervisor support for participation in training programs," and in response participants rated their level of organizational climate on the 5-point Likert scale. The organizational climate measure was analyzed as a mediating factor between the transfer of learned material and individual performance. The use of a 5-point

Likert scale for the measurement of organizational climate factors provided a clear and applicable rating scale for each factor (Chatzoglou, Sarigiannidis, Vraimaki, & Diamantidis, 2009).

Organizational climate refers to the work and environmental factors that enhance or inhibit the transfer of training (Lim & Morris, 2006). Supervisor support and positive feedback enhance the transfer of learned material to individual performance (Velada, Caetano, Michel, Lyons, & Kavanagh, 2007). Further, Lim and Morris (2006) found that the applicability of the training content three months following the training intervention was influenced by the participant's organizational climate. As such, organizational climate is an important mediating factor of the transfer of learned material to changes in individual performance.

Procedures

Prior to starting any data collection, ethics approval was granted through the Research Ethics Board at Brock University. All managers and executive volunteers who attended the Risk Management Workshop for their respective provincial or national sport organization were invited to participate in the study. Participants received a formal letter of invitation with their pre-workshop registration package that outlined the expectations of participants in this study (Appendix B). In addition, participants received a copy of the questionnaire, informed consent form and researcher's contact information for inquiries (Appendix C). Risk Management Workshop attendees were not required to participate in the study.

Participants completed the same questionnaire at each of the three time-series. Completion of the questionnaire took approximately 10 minutes, requiring a total of approximately 30 minutes for the data collection across all three stages. The measurement timeline was as follows:

Stage 1 – Pre-training Survey – completed a hard copy version which was submitted in-person at the start of the workshop (see Appendix D)

Stage 2 – Post-training[1] Survey – completed a hard copy version in-person at the end of the workshop (see Appendix E)

Stage 3 – Post-training[2] Survey – completed an online version three (3) months after the workshop

Stages 1 and 2 of data collection were administered and collected by the researcher or the workshop facilitator. Stage 3 of data collection was administered by the researcher through the use of an online survey service, Survey Monkey. Prior to the three month timeline, participants were emailed an access link to the post-training[2] online survey. Participants received reminder emails four days, seven days, and twelve days after the three-month date in an effort to maximize participant response rates. If participants did not complete the survey within four days of the last reminder email, they were not included in the analysis of the three-month data. Responses were recorded electronically and were uploaded and matched with Stage 1 and 2 responses. It was imperative that all three stages were correctly matched for each of the participants in order to facilitate the multiple time series and enable longitudinal data analysis. Participants were sent an executive summary of the major findings of this study following the completion of the project.

The timeline implemented in this study was developed based on support from human resource management literature, which calls for research that adopts a longitudinal format towards the transfer of training. Although there is a vast interest in how quickly the transfer of training occurs and the extent to which learning is retained, very little research collects data at more than one point in time (Cromwell & Kolb, 2004). Further, studies that have collected data at multiple times typically only capture a relatively short time frame, usually a couple of weeks or one month (Cromwell & Kolb, 2004; Gaudine & Saks, 2004). Although it is not clear what the best time frame is for measuring the transfer of training, both short-term and long-term measures should be collected (Cromwell & Kolb, 2004). Leitl and Zempel-Dohmen (2006) investigated the impact of motivation on the transfer of training at the end of training and three months after training, in which they found that the impact varied significantly over that time period. This three month timeline was also used by Velada, Caetano, Michel, Lyons and Kavanagh (2007) to examine the effects of training design, individual characteristics and work environment on the transfer of training.

Data Analysis

The quantitative analysis of the data followed a sequential design. First, preliminary data analysis was conducted to identify any errors in data entry, uncover any patterns of missing data and ensure compliance with statistical assumptions. If any missing data values were found, the series mean substitution imputation strategy was employed (Roth, 1994). The series mean substitution method for imputation creates a value for the variable with missing data that is derived from the non-missing items for the variable (Baraldi & Enders, 2009; Hawthorne & Elliot, 2005). Data for participants who

did not complete all three stages of the study were removed prior to analysis. In addition, if participants changed or left their organization during the study, their data from all completed stages was removed before analysis.

Second, descriptive statistics were calculated on all variables and univariate normality analysis was done through the examination of skewness and kurtosis for learning (understanding and applicability), individual and organizational performance scores. Third, estimates for reliability were examined for the mediating and outcome variables. Estimates of internal consistency (Cronbach alphas) were calculated to determine the reliability of the outcome scores (Cronbach, 1951). Fourth, hypothesis testing was conducted. Repeated-measures ANOVA analysis was conducted to compare the levels of learning, individual performance, and organizational performance for the three time-series measures. Paired-samples t-tests were conducted to examine the difference between pre-training and post-training mean scores for the learning and performance variables. Pearson's correlation analysis was conducted to expose any relationships between the learning and performance measures. In order to complement the correlation analyses, simple linear regression analysis was conducted to determine the percent of variance accounted for between the learning and performance variables. Effect sizes were calculated and interpreted to determine the practical significance of the findings.

Lastly, multiple mediation of the three transfer variables (training design, motivation to transfer, and organizational climate) between the learning-individual performance relationship was tested using Preacher and Hayes' (2007) bootstrapping method of multiple mediation. Mediation models recognize the intervening variables that

may influence the causal relationship between two variables (MacKinnon, Lockwood, & Williams, 2004). Multiple mediation models go a step further and recognize that a combination of variables may simultaneously or independently influence the causal relationship between variables (MacKinnon et al., 2004). Appendix F depicts a general multiple mediation model with *j* mediators, displaying both the direct effect (*c*) and the indirect effect (*c'*) of the independent variable (*X*) on the dependent variable (*Y*) via the *j* mediators.

Bootstrapping is a nonparametric re-sampling procedure. It is a computationally intensive method and involves repeatedly sampling from the original data set and estimating indirect effect in each re-sampled data set (Preacher & Hayes, 2007). The recommended bootstrap sample of 5000 (*k*=5000; Preacher & Hayes, 2007) was used for this analysis, meaning that the data collected from the participants was computationally re-sampled 5000 times. By repeating this process several thousand times, an empirical approximation of the sampling distribution is created for the indirect effect, and as a result, does not impose the assumption of normality of the sampling distribution (Preacher & Hayes, 2007). Consequently, the bootstrapping method allows for a smaller sample size than necessary to comply with normal distribution assumptions (Preacher & Hayes, 2007). Based on these implications, the bootstrapping approach is recommended over the Sobel test (Preacher & Hayes, 2007; Sobel, 1982) or the causal steps approach (Baron & Kenny, 1986) as it produces higher power while maintaining control over the Type I error rate (MacKinnon, Lockwood, & Williams, 2004). Refer to Appendix G for a summary of the hypotheses and their associated statistical tests.

Although the majority of training evaluation research follows a quantitative methodology, there are a few exceptions that utilize a qualitative approach to explore and evaluate the transfer of training (Hawley & Barnard, 2005; Nikandrou, Brinia, & Bereri, 2009). The incorporation of the four open-ended questions relating to learning (understanding and applicability), individual performance, and organizational performance allowed for additional insight. As such, the data from the open-ended questions were interpreted to further contextualize the three outcome variables of training transfer. Following the quantitative data analysis strategies outlined above, the open-ended responses were compiled for each of the four questions and divided based on the three time measures.

Chapter Four: Results

Preliminary Data Analysis

Upon completion of the data collection period, preliminary data analysis was conducted to examine response rates, participant retention, patterns of missing data and data cleaning procedures, and demographic information in order to identify the characteristics of the sample and obtain the appropriate final data set.

Response rates. Data were collected for the three outcome variables (learning, individual performance, and organizational performance) and the three mediating variables (motivation to transfer, training design, and organizational climate) at each of the time-series (pre-training, post-training^1, and post-training^2). From the six NSOs that participated in the Risk Management Workshop, all 36 attendees consented to participate in the study, with a 100% response rate for the pre-training survey, a 97% (35 of the 36) response rate for the post-training^1 survey, and a 64% (22 of the 36) response rate for the post-training^2 survey. Of those participants who did not complete the post-training^2 survey, five were from NSO4, which represents all of the participants from that workshop. As such, this NSO was removed from the sample. In addition, two participants left their organization within the three month data collection timeline and seven participants did not complete the post-training^2 survey. These cases were removed prior to analysis, resulting in a final sample of 22 (N = 22) from five Canadian national sport organizations.

Participant retention. As explained above, 22 RMW participants were retained throughout all three stages of data collection, while 14 RMW participants were not retained for various different reasons. The various demographics that were collected in

the pre-training survey allowed for an analysis of potential reasoning behind the participant drop off. Chi-square analyses were conducted to analyze the non-parametric variables (gender, work status, educational background) as they related to participant retention. The results revealed that no differences were witnessed in gender ($\chi^2 = 0.05$, $p = 0.832$, phi = -0.04), work status ($\chi^2 = 4.26$, $p = 0.119$, phi = 0.34), and educational background ($\chi^2 = 6.44$, $p = 0.169$, phi = 0.44) between those participants who were retained throughout the three stages of data collection and those who were not (see Table 1). Independent samples *t*-tests were also conducted to analyze the parametric variables (age, years with NSO, years in sport industry, years in any industry) as they related to participant retention. The results revealed that no differences existed between the retained and non-retained participants in age ($t = -1.36$, $p = 0.185$, $d = -0.41$), years with current NSO ($t = 0.89$, $p = 0.382$, $d = 0.27$), years worked in the sport industry ($t = -0.78$, $p = 0.447$, $d = -0.24$), and years worked in any industry ($t = -0.21$, $p = 0.835$, $d = -0.06$) (see Table 1). Consequently, the participant retention analysis suggests the loss of participants was random as opposed to a consequence of specific factors.

Patterns of missing data. Missing data values were substituted through the series mean substitution imputation strategy (Roth, 1994). In the pre-training data, there was one missing data value in the understanding items (0.24%), one in the individual performance items (0.76%), and one in the organizational climate items (0.51%). In the post-training[1] data, there were three missing data values in the organizational performance items (2.27%) and five in the training design items (3.25%). In the post-training[2] data, there were 13 missing data values in the understanding (3.11%) and 11 missing data values in the applicability items (2.63%), five in the individual performance

items (3.79%), six in the organizational performance items (4.55%), six in the motivation to transfer items (4.55%), eight in the training design items (5.20%), and 14 in the organizational climate items (7.07%). While each measure had the option, no participants identified "not relevant" as their response at any of the three stages of data collection. As such, no coding was required to capture the "not relevant" responses.

Although experts have not reached consensus regarding the percentage of missing data that becomes problematic, recommendations range from 5% to 20% cut off (Schlomer, Bauman, & Card, 2010). However, Schlomer et al. (2010) argue that any percentage cut off is problematic because it overlooks the reasoning behind the missing data values. Instead, it is recommended that patterns of missing data and imputation strategies be the primary focus when addressing missing data (Schlomer et al., 2010). Based on the distribution of the missing data values in this study, it is evident that the missing data was completely at random, where there were no patterns to the missing data and the missing values were not related to any specific variables in the study (Schlomer et al., 2010). Further, the percentage of missing data in this study falls within the recommended range and, as such, the series mean substitution imputation method appropriately addressed the missing values for all three stages of data collection.

Participants. Participants' ages ranged from 24-62 years with a mean of 42 years (*SD* = 10.08). Of the 22 participants, 10 were female and 100% were employed full-time at the time of data collection, either with the NSO in the case of a manager, or with another organization in the case of an executive volunteer. The majority of the participants (55%, *n* = 12) reported that they had less than five years experience with their current national sport organization, 41% (*n* = 9) of participants reported that they

had less than five years experience with other sport organization(s), and 50% (*n* = 11) reported that they had less than ten years experience in any other industry. All of the participants (100%) had attended postsecondary institutions. Of these 50% (*n* = 11) held a University Degree, 45% (*n* = 10) held a Masters Degree, and 5% (*n* = 1) held a Doctorate Degree. See Table 1 for a summary of the participant characteristics and demographics.

Descriptive Statistics

The descriptive statistics include the frequency distributions, means and standard deviations, and univariate normality analysis. These statistics provide a better understanding of the sample characteristics and establish estimates of reliability for the scores at each of the three stages of data collection.

Descriptives. On average, prior to the Risk Management Workshop (pre-training), this sample reported moderate understanding (*M* = 3.04, *SD* = 0.61), high applicability (*M* = 4.17, *SD* = 0.77), moderate individual performance (*M* = 3.30, *SD* = 0.59), and moderate organizational performance (*M* = 2.77, *SD* = 0.72). The sample also reported high motivation to transfer (*M* = 4.17, *SD* = 0.70) and moderate ratings of organizational climate (*M* = 3.83, *SD* = 0.63) in the pre-training data. Results for the pre-training data revealed little concern in terms of normality (skewness: -0.70 to 0.76; kurtosis: -1.22 to 0.76) (George & Mallery, 2003). It is important to note that the motivation to transfer data were slightly platykurtic (-1.22), however the data still fall within the ± 2 range, which George and Mallery (2003) identify as an acceptable range (see Table 2).

Immediately after the RMW (post-training[1]), this sample reported increased understanding (*M* = 3.91, *SD* = 0.46), applicability (*M* = 4.41, *SD* = 0.62), individual

performance (*M* = 3.84, *SD* = 0.48), and organizational performance (*M* = 3.52, *SD* = 0.71) compared to the pre-training levels. The post-training[1] results also reported increased motivation to transfer (*M* = 4.47, *SD* = 0.50) and organizational climate (*M* = 4.17, *SD* = 0.55), and high training design (*M* = 4.45, *SD* = 0.37) compared to the pre-training data. Results for the post-training[1] data, for the most part, revealed little concern in terms of normality (skewness: -1.34 to 0.48; kurtosis: -1.40 to 3.50), however, the training design data were slightly negatively skewed (-1.34) and were fairly leptokurtic (3.50). Despite the fact that this value falls outside of the appropriate ± 2 range, it presents little concern in terms of normality based on the sample size and theoretical support for the variable (George & Mallery, 2003) (see Table 2). Skewness and kurtosis values are directly influenced by sample size, where a smaller sample size can produce misleading values of skewness and kurtosis (George & Mallery, 2003).

Three months after the RMW (post-training[2]), this sample reported slightly lower levels of understanding (*M* = 3.88, *SD* = 0.47), applicability (*M* = 4.36, *SD* = 0.68), individual performance (*M* = 3.74, *SD* = 0.50), and organizational performance (*M* = 3.27, *SD* = 0.58) compared to the post-training[1] scores and higher levels when compared to the pre-training scores. The sample also reported slightly lower levels of motivation to transfer (*M* = 4.17, *SD* = 0.61), organizational climate (*M* = 3.93, *SD* = 0.47), and training design (*M* = 4.23, *SD* = 0.37) at post-training[2] when compared to the post-training[1] data. However, the motivation to transfer, organizational climate, and training design scores remained elevated when compared with the pre-training scores. Results for the post-training[2] data revealed little concern in terms of normality as all values fall within the acceptance ±2 range for both skewness and kurtosis (skewness: -1.00 to 0.59; kurtosis:

-0.75 to 0.68) (see Table 2). Despite the few variables identified above that fall outside of the acceptable range for skewness and kurtosis, it can be concluded, based on visual inspection of normal distribution lines and histograms that no major violations to univariate normality exist for the outcome and mediating variables at each of the three time-series.

Estimates of Reliability

In order to determine the reliability of the items for each measure, estimates of internal consistency (Cronbach alphas; Cronbach, 1951) were computed from the test scores at each of the three stages of data collection for both the outcome (understanding, applicability, individual performance, organizational performance) and mediating variables (motivation to transfer, training design, organizational climate). For the pre-training data, the alphas (α) ranged from 0.88 to 0.97. Similarily, the alphas (α) for the post-training[1] and post-training[2] data ranged from 0.86 to 0.97 and 0.72 to 0.97, respectively (see Table 3). Based on the estimates of internal consistency and a more in-depth analysis of the item-total statistics, no items were removed from any of the measures.

Patterns of Association

Pearson bivariate correlations were calculated between the understanding and applicability scores at each of the stages of data collection in order to determine whether the variables were distinct or could be collapsed into an overall learning construct. The results of the bivariate correlations demonstrated that understanding and applicability were in fact distinct constructs at pre-training (r = 0.21), post-training[1] (r = 0.32), and

post-training[2] ($r = 0.25$) (see Table 4). As such, the subsequent analyses were conducted based on understanding and applicability as separate learning constructs.

Pearson bivariate correlations were also calculated between all study variables at each of the three time-measures to determine any associations between variables (see Tables 5 – 7). Prior to training, understanding was positively correlated to individual performance ($r = 0.59$, $p = 0.004$) and organizational performance ($r = 0.14$, $p = 0.548$), while applicability was slightly negatively correlated to individual and organizational performance ($r = -0.13$, $p = 0.570$; $r = -0.16$, $p = 0.475$). The result further supports understanding and applicability as distinct learning variables. Applicability was also moderately and positively correlated to motivation to transfer ($r = 0.49$, $p = 0.022$) and organizational climate ($r = 0.49$, $p = 0.020$) prior to training, while a slightly negative and small correlation was found between understanding and motivation to transfer ($r = -0.02$, $p = 0.948$) and organizational climate ($r = 0.12$, $p = 0.587$). Individual performance and organizational performance ($r = 0.63$, $p = 0.002$) and motivation to transfer and organizational climate ($r = 0.59$, $p = 0.004$) were also positivity correlated at pre-training (see Table 5).

Immediately after training, the correlations between the study variables changed slightly when compared to those prior to training. Understanding was more strongly aligned with individual performance ($r = 0.83$, $p = 0.000$) and organizational performance ($r = 0.24$, $p = 0.278$) when compared to the pre-training data. Applicability was more aligned and remained strongly correlated with motivation to transfer ($r = 0.71$, $p = 0.000$) and organizational climate ($r = 0.57$, $p = 0.006$) following the training. Motivation to

transfer and organizational climate ($r = 0.50$, $p = 0.019$) remained moderately correlated at post-training[1] (see Table 6).

Three months after training, understanding remained positively correlated to individual performance ($r = 0.51$, $p = 0.016$), while applicability was moderately and positively correlated to individual performance ($r = 0.42$, $p = 0.050$), organizational performance ($r = 0.43$, $p = 0.045$), motivation to transfer ($r = 0.54$, $p = 0.010$), and organizational climate ($r = 0.54$, $p = 0.010$). Organizational performance was also moderately and positively aligned with motivation to transfer ($r = 0.42$, $p = 0.049$) and organizational climate ($r = 0.63$, $p = 0.002$), a relationship that was insignificant and small in the pre-training and post-training[1] time-measures. Training design also emerged as moderately and positively correlated to both understanding ($r = 0.48$, $p = 0.023$) and organizational climate ($r = 0.45$, $p = 0.034$) for the first time in the post-training[2] data (see Table 7).

Analysis of Variance and Paired-samples t-test Analysis

Repeated-measures analysis of variance (ANOVA) and effect sizes were conducted to compare the levels of understanding, applicability, individual performance, and organizational performance for the three time-series measures and to determine the percent of variance accounted for by the time-series. Repeated-measures ANOVA analysis was used because the same participants took part in all stages of data collection (Keppel & Zedeck, 2006). Mauchly's test of sphericity was examined for each of the three outcome variables in order to determine compliance with the assumption of sphericity. This assumption states that the relationship between pairs of experimental conditions is similar, or in other words, the level of dependence between pairs is roughly

equal (Field, 2008). For understanding, Mauchly's test indicated that the assumption of sphericity was not violated, $\chi^2(2) = 2.71$, $p = 0.258$, therefore sphericity is assumed.

The results show that a significant difference and a large effect size was found between the three time measures for understanding ($F(2,21) = 50.06$, $p = 0.000$, $\eta_p^2 = 0.70$). For applicability, while Mauchly's test indicated that the assumption of sphericity was not violated, $\chi^2(2) = 2.02$, $p = 0.365$, a significant difference was not found between the three time measures ($F(2,21) = 2.29$, $p = 0.114$, $\eta_p^2 = 0.10$). For individual performance and organizational performance, Mauchly's test indicated that the assumption of sphericity was not violated ($\chi^2(2) = 0.62$, $p = 0.733$; $\chi^2(2) = 0.18$, $p = 0.916$). The results show that significant differences were found between the three time measures for individual performance ($F(2,21) = 15.57$, $p = 0.000$, $\eta_p^2 = 0.43$) and organizational performance ($F(2,21) = 11.25$, $p = 0.000$, $\eta_p^2 = 0.35$), with large and moderate effect sizes, respectively (Table 8). These results demonstrated that the differences between the three time-series measures for understanding, individual performance, and organizational performance have moderate ($\eta_p^2 > 0.25$) to large ($\eta_p^2 > 0.40$) effect sizes (Field, 2008).

Since significant differences were found for understanding, individual performance, and organizational performance, paired-samples *t*-tests were conducted to determine where the significant differences exist. Significant differences between the pre-training and post-training[1] scores were found for understanding ($t(21) = -7.63$, $p = 0.000$, $d = -1.69$), applicability ($t(21) = -2.35$, $p = 0.029$, $d = -0.53$) individual performance ($t(21) = -4.84$, $p = 0.000$, $d = -1.05$), and organizational performance ($t(21) = -4.48$, $p = 0.000$, $d = -0.96$). Significant differences between the pre-training and post-training[2]

scores were found for understanding ($t(21) = -8.85$, $p = 0.000$, $d = -1.98$), individual performance ($t(21) = -4.63$; $p = 0.000$, $d = -1.01$), and organizational performance ($t(21) = -3.27$; $p = 0.004$; $d = -0.71$). The effect size (*Cohen's d*) for each paired samples *t*-test was negative, indicating that M_2 was larger than M_1 (Cohen, 1992). Since the effect sizes are interpreted as an absolute value, the results demonstrated that the differences between the pre-training and post-training[2] scores for each training outcome variable had large ($d > 0.80$) effect sizes, suggesting the magnitude of the differences is large (Cohen, 1992). No significant differences were found between the post-training[1] and post-training[2] scores for all of the training outcome variables, however the effect size calculations revealed that these differences had low effect sizes (*d*s ranged from -0.31 to 0.33) (see Table 9).

The open-ended responses provided data that reaffirm the trends relating to the differences between the training outcomes variables outlined above. The significant differences between pre-training and post-training measures for understanding, applicability, individual performance, and organizational performance were also supported by several of the participants' open-ended responses. As Participant 4 stated, there was a "much greater understanding after the workshop, increased awareness and knowledge" (post-training[1]) and Participant 2 felt that the RMW provided a "great opportunity to use new skills and thought processes to identify current and long term risks" (post-training[2]). Several participant responses reiterated the differences between the performance outcomes identified in the paired-samples *t*-tests. For instance, Participant 10 stated the RMW "makes me look at things more thoroughly and view other aspects that I may not have previously seen. So perhaps my performance is better but my

understanding of my responsibility has grown" (post-training^2). Participant 2 also stated "I feel better equipped to handle decision making processes and the workshop helped the organization and the staff attain a mutual/joint agreement on what future challenges will be. This will allow for a team effort in tackling new challenges" (post-training^1).

Correlation Analysis and Simple Linear Regression

Pearson's bivariate correlation analysis and simple linear regression were conducted to analyze the relationships and to determine the percent of variance accounted for between the training outcome variables. Correlations between the outcome variables existed at all three time measures, however, the variables involved differed. First, in the pre-training data, understanding and individual performance were moderately and positively correlated ($r = 0.59$, $p = 0.002$) with understanding predicting 32% of the variance in individual performance ($R^2_{adj} = 0.32$, $F(1,21) = 10.79$, $p = 0.004$). The results also demonstrated that understanding was a strong and significant predictor of individual performance ($\beta = 0.59$, $p = 0.004$). Individual performance and organizational performance were also moderately and positively correlated in the pre-training data ($r = 0.63$, $p = 0.001$) with individual performance predicting 37% of the variance in organizational performance ($R^2_{adj} = 0.37$, $F(1,21) = 13.11$, $p = 0.002$). Further, the results revealed that individual performance was a strong and significant predictor of organizational performance ($\beta = 0.63$, $p = 0.002$). Significant correlations between applicability and individual performance ($r = -0.13$, $p = 0.285$) and, both, understanding and applicability and organizational performance ($r = 0.14$, $p = 0.274$; $r = -0.16$, $p = 0.238$, respectively) did not exist in the pre-training data. These results demonstrate that prior to attending the Risk Management Workshop the participants recognized that their

understanding of the RMW content was significantly related to their individual performance and that their individual performance was significantly related to their organization's performance (see Table 10). This finding is further reiterated through the open-ended responses relating to individual and organizational performance. For instance, Participant 31 stated very clearly that "my work will help improve the company's performance" (pre-training).

Second, in the post-training[1] data, understanding and individual performance were strongly and positively correlated ($r = 0.83$, $p = 0.000$) with 68% of the variance in individual performance accounted for by understanding ($R^2_{adj} = 0.68$, $F(1,21) = 45.08$, $p = 0.000$), signifying that understanding was a significant predictor of individual performance ($\beta = 0.83$, $p = 0.000$). Significant correlations between understanding and organizational performance ($r = 0.24$, $p = 0.139$), applicability and individual performance ($r = 0.26$, $p = 0.122$), applicability and organizational performance ($r = 0.11$, $p = 0.319$), individual performance and organizational performance ($r = 0.26$, $p = 0.124$) did not exist in the post-training[1] data. These results indicated that following training, participants felt that their understanding of the training content was significantly related to their individual performance (see Table 11).

Last, in the post-training[2] data, understanding and individual performance ($r = 0.51$, $p = 0.008$) were positively correlated with understanding predicting 22% of the variance in individual performance ($R^2_{adj} = 0.22$, $F(1,21) = 6.92$, $p = 0.016$). The results also revealed that understanding was a predictor of individual performance ($\beta = 0.51$, $p = 0.016$). In addition, understanding and organizational performance ($r = 0.36$, $p = 0.049$) were positively correlated. However, the results revealed that understanding was not a

significant predictor of variance in organizational performance (R^2_{adj} = 0.09, F(1,21) = 3.00, p = 0.099). The post-training[2] data also revealed that applicability was positively correlated to both individual performance (r =0.42, p = 0.026) and organizational performance (r = 0.43, p = 0.022), with applicability predicting 13% of the variance in individual performance (R^2_{adj} = 0.13, F(1,21) = 4.26, p = 0.052) and 15% of the variance in organizational performance (R^2_{adj} = 0.15, F(1,21) = 4.59, p = 0.045). The model further revealed that applicability was a predictor of individual performance (β = 0.42, p = 0.052) and organizational performance (β = 0.43, p = 0.045).

A significant correlation between individual performance and organizational performance (r = 0.32, p = 0.070, [-0.12, 0.65]) did not exist in the post-training[2] data (see Table 12). However, it is interesting to note the difference between the post-training[1] (r = 0.26, p = 0.124, [-0.18, 0.61]) and post-training[2] data with regards to the correlation and level of significance between these variables. The results from the post-training[2] data revealed that, three months after training, understanding and applicability were significantly related to both individual performance and organizational performance, but that individual performance and organizational performance were not significantly related to one another. These results were very clearly reiterated through the open-ended responses, such as Participant 7's statement that "it was great to see that [NSO] has put in place many of the actions that were discussed, [NSO] is very open to learning and improving, this has increased [NSO's] performance" (post-training[1]).

Multiple Mediation Analysis

Multiple mediation analysis was conducted for each of the three time-series measures using Preacher and Hayes (2007) bootstrapping method. Multiple mediation

models allow for an examination of the intervening variables that may influence the causal relationship between two variables (MacKinnon, Lockwood, & Williams, 2004). In this case, the multiple mediation analysis of the pre-training data explored the influence of motivation to transfer and organizational climate on the relationship between understanding and individual performance and between applicability and individual performance. The analysis of the post-training[1] and post-training[2] data explored the influence of motivation to transfer, training design, and organizational climate on the relationship between, both, understanding and individual performance and applicability and individual performance.

Pre-training. Results of the bootstrapping procedure to test for multiple mediation in the relationship between understanding and individual performance prior to training revealed that the model was not mediated by the two transfer system variables (motivation to transfer, organizational climate) (point estimate = 0.0256; BCa CI = -0.0828 to 0.5146). However, the model did account for 27% of the variance ($R^2_{adj} = 0.27$, $p = 0.033$). Further analysis revealed that neither of the mediating factors emerged as an individual contributor to the model and, through contrasting the indirect effects, that the difference between the mediators was not significant (see Table 13 and Figure 2). The results also revealed that the relationship between applicability and individual performance was not mediated by motivation to transfer and organizational climate (point estimate = 0.1049; BCa CI = -0.1778 to 0.5490). Further analysis revealed that neither of these factors emerged as an individual contributor to the model ($R^2_{adj} = 0.52$, $p = 0.521$) and that the differences between the mediators were not significant (see Table 14 and Figure 3).

Post-training[1]. Results of the bootstrapping procedure to test for multiple mediation in the relationship between understanding and individual performance immediately after training revealed that the model was not mediated by the three transfer system variables (motivation to transfer, training design, organizational climate) (point estimate = -0.0068; BCa CI = -0.1932 to 0.1907). However, the model did account for 74% of the variance ($R^2_{adj} = 0.74$, $p = 0.000$). Further analysis revealed that none of the three mediating factors emerged as the only contributor to the model and that the differences between the mediators were not significant (see Table 15 and Figure 4). The results of the bootstrapping procedure to test for multiple mediation in the relationship between applicability and individual performance immediately after training also revealed that the model ($R^2_{adj} = -0.07$, $p = 0.643$) was not mediated by the three transfer system variables (point estimate = 0.1215; BCa CI = -0.2757 to 0.5562). Further analysis also revealed that none of the three mediating factors emerged as the only contributor to the model and that the differences between the mediators were not significant (see Table 16 and Figure 5).

Post-training[2]. Results of the bootstrapping procedure to test for multiple mediation in the relationship between understanding and individual performance three months after training revealed that the model ($R^2_{adj} = 0.13$, $p = 0.176$) was not mediated by the three transfer system variables (motivation to transfer, training design, organizational climate) (point estimate = -0.0764; BCa CI = -0.4874 to 0.3034). Further analysis revealed that none of the three mediating factors emerged as the only contributor to the model and that the differences between the mediators were not significant (see Table 17 and Figure 6). The results of the bootstrapping procedure to test for multiple

mediation in the relationship between applicability and individual performance three months after training also revealed that the model ($R^2_{adj} = 0.07$, $p = 0.274$) was not mediated by the three transfer system variables (point estimate = -0.1266; BCa CI = -0.5498 to 0.1759). Further analysis also revealed that none of the three mediating factors emerged as the only contributor to the model and that the differences between the mediators were not significant (see Table 18 and Figure 7).

Main Findings

Research Question 1 (RQ1). As stated earlier in the chapter, RQ1 related to whether, and to what extent, the Risk Management Workshop (RMW) influenced the individual performance of sport leaders and the organizational performance of their relevant national sport organization. The results above demonstrated that the RMW does influence the understanding and applicability of the material discussed in the workshop, the individual's performance of the various risk management practices and strategies, and the overall performance of the organization. More specifically, understanding, applicability, individual performance, and organizational performance increased following the RMW, with participants ranking the outcome variables highest immediately following the RMW.

An additional element within RQ1 related to the relationships that existed between the training outcome variables at each of the three time-series. Interestingly, different relationships existed between the outcome variables at each of the three stages of data collection – pre-training, post-training[1], and post-training[2]. The findings relating to the significant differences and significant relationships initiate an interesting

discussion surrounding the duration and sequence of change in individual and organizational performance as a result of training.

While the results from the survey indicated that the RMW had a significant impact on the outcome variables (understanding, applicability, individual performance, organizational performance) and the relationships between the variables, the participants provided additional insight through the open-ended questions in the survey at each time-series. The participants indicated that the RMW was appropriately related to the current state of their organizations and that the material covered throughout the workshop not only influenced their individual performance, but also the performance of their organization. The open-ended responses revealed both anticipatory and evaluative comments relating to the performance outcomes of training at each of the three time-measures. Further, the participants made explicit links between the RMW and improvements in strategic planning, board development, high performance development programming, and decision making:

> "In my position as executive director, I think it will be extremely valuable and hope our volunteer board and executive will use this opportunity to make improvements to the NSO" (Participant 36, pre-training).

> "Makes me more knowledgeable and better able to deliver an outstanding program" (Participant 2, pre-training).

> "This is very pertinent to my job, I deal with RM every day, I will be using these techniques to take my board through a similar process" (Participant 7, post-training[1]).

> "Excellent – high performance development deals equally with operational and strategic issues" (Participant 35, post-training[1]).

> "Great learning experience, efficient delivery of problem solving options and impactful, positive decision making" (Participant 2, post-training[1]).

> "Helps frame some of my planning for future/current strategic planning" (Participant 9, post-training[1]).

Research Question 2 (RQ2). RQ2 examined whether motivation to transfer, training design, and organizational climate mediated the relationship between learning (understanding and applicability) and individual performance. As displayed above, these three mediating factors, together, did not play a meaningful role in the relationships between understanding and individual performance and applicability and individual performance at any of the three stages of data collection. Although the results were non-significant, the participants provided additional insight into the influences of the design of the training program, their motivation and personal desire towards the RMW, and their organization's willingness to the implement the strategies and processes discussed throughout the RMW:

> "Provides excellent forum to tease out important issues facing staff and programs, provides an extremely useful tool to build capacity" (Participant 9, post-training[1]).

> "Was completely impressed with the NSO thinking and desires to grow" (Participant 3, post-training[1]).

> "Moderate – organization doesn't like change, will be more helpful to have greater number of executive/board here for presentation" (Participant 35, post-training[1]).

Chapter Five: Discussion and Conclusions

The overall purpose of this study was to examine the impact of training on the individual performance of national level sport managers and the overall performance of Canadian national sport organizations. This study also analyzed how motivation to transfer, training design, and organizational climate influence the relationship between the learning that takes place as a result of training and the individual performance of sport managers. As such, this study attempted to capture both the 'what' and the 'why' of the transfer of training by examining the impact of training on the outcome variables and examining the factors that may explain why the transfer of training does or does not occur.

Further, as the results discussed in Chapter Four demonstrate, this study points to a need to examine training from a process point of view (Seyler, Holton, Bates, Burnett, & Carvalho, 1998). This process point of view and the inclusion of both outcome and mediating variables in the examination generate discussion regarding the nature of the changes in performance outcomes that are associated with the transfer of training. Consequently, this chapter will, first, discuss the findings of this study as they relate to the hypotheses and the theoretical framework outlined in Chapter Two. Second, this chapter will extend the hypothesis summary to include additional discussion related to the progression of performance change that was initiated through training. More specifically, the duration and sequence of performance change will be discussed in relation to the transfer of training. Third, this chapter will employ three levels of analysis – individual, organizational, systemic – to frame a discussion on how the results of this study may relate to broader issues of change management within this compliment of sport managers,

national sport organizations, and the Canadian amateur sport system. It is recognized that this was not the purpose of the study; however, a dialogue about how the findings of this study may extend beyond the immediate training transfer literature and relate to broader aspects of individual, organizational, and systemic change is worthwhile. In doing so, a more comprehensive understanding of training transfer within the amateur sport context may be achieved. Last, this chapter will outline and discuss the limitations of this study, as well as the implications and future directions that the design and results of this study introduce.

Learning as the Primary Outcome of Training Transfer

Since Kirkpatrick's (1959) seminal work on the evaluation of training programs, learning has consistently been included as a primary outcome of the transfer of training. The majority of training transfer literature defines learning as a measure of skill acquisition or improvement and of the trainee's perceptions of the effects of training on the acquisition of new skills (Velada & Caetano, 2007). This definition of learning addresses both the understanding and applicability of training content and, as a result, training evaluation studies often examine learning as a single measure that captures both of these elements (Holton, Bates, & Ruona, 2000; Yamnill & McLean, 2001). This study, however, presented a unique analysis of learning by measuring understanding and applicability separately. The separation of learning into two constructs distinguished this study from existing literature and provides support for the treatment of understanding and applicability as separate measures in future training transfer research.

Hypotheses One and Two posited that understanding and applicability would increase following the Risk Management Workshop and would be highest immediately

after the training program. The findings of this study support these hypotheses as both understanding and applicability significantly increased following training and remained higher than the pre-training scores at the three month time measure. These findings are consistent with existing training evaluation literature that identifies an increase in learning scores following training (Lim & Morris, 2006; Velada, Caetano, Michel, Lyons, & Kavanagh, 2007). However, unlike previous research, this study recognizes understanding and applicability as distinct measures, contributing to a more in-depth analysis of learning and a deeper understanding of the trends associated with each component of learning. While understanding significantly increased following training and remained significantly elevated three months after training, a significant increase in applicability was only witnessed immediately after training. These findings provide a unique contribution to the development of training transfer research as it is evident that the impact of training upon learning differed between understanding and applicability.

Individual Performance as the Secondary Outcome of Training Transfer

Training is ultimately aimed at performance improvement through learning and taking action on that learning (Weldy, 2009). The acquisition of skills and knowledge is of little value if the learned characteristics are not transferred to the individual's performance (Yamnill & McLean, 2001). Based on this argument, Hypotheses Three and Four stated that individual performance would increase following training and that individual performance would be positively correlated to learning (understanding and applicability). The findings of this study support both of these hypotheses and further justify the relationship between measures of learning and individual performance. Consistent with existing literature, individual performance increased significantly

following training and remained elevated at the three month time measure (Vermeulen & Admiraal, 2009). Further, understanding and individual performance were significantly related at all three time-measures, while applicability and individual performance were only significantly aligned at the three month time-measure.

While the findings of this study are consistent with existing literature that explores the relationship between learning and individual performance (Robertson & Huang, 2006; Velada & Caetano, 2007), the examination of understanding and applicability as separate variables provided important insight into the reasoning behind this relationship. The findings of this study support Yamnill and McLean's (2001) model (see Figure 1), which places learning and individual performance as directly related variables. However, since understanding and applicability were treated as distinct measures of learning, variations among the three time measures were found. Understanding was aligned with improvements in individual performance at all three time-measures, whereas, applicability became more relevant and aligned with individual performance at the three month time measure. As such, the findings of this study extend Yamnill and McLean's (2001) model to capture both the specific relationships between understanding and individual performance and applicability and individual performance, and address the variations that were witnessed at each time measure.

Organizational Performance as the Tertiary Outcome of Training Transfer

National sport organizations are evaluated at the organizational level, where performance criteria are defined by organizational processes and strategies (Koski, 1992). The organizational performance measure allowed for an examination of the differences and relationships relating to organizational level indices of performance. The findings of

this study support Hypothesis Five, which stated that organizational performance would increase following training. Similar to the trends found in individual performance, organizational performance increased significantly immediately after training and remained higher than the pre-training scores at the three month time measure. These findings extend existing training evaluation research that supports the inclusion of organizational performance as a measurable training outcome (Nikandrou, Brinia, & Bereri, 2009) and justifies its inclusion in Yamnill and McLean's (2001) model of training evaluation.

The findings of this study only partially supported Hypothesis Six, which stated that organizational performance would be positively correlated to individual performance. The relationship between individual performance and organizational performance varied among the three time measures. Prior to training, individual performance and organizational performance were significantly related, indicating that participants were aware of the association between their individual performance and their organization's performance. Immediately after training, no significant relationships between organizational performance and understanding, applicability, or individual performance were found. However, three months after training, significant correlations between understanding and organizational performance and between applicability and organizational performance were found. While previous research has linked learning to ability (Kirwan & Birchall, 2006), workplace climate (Martin, 2010), and training motivation (Mathieu, Tannenbaum, & Salas, 1992), the relationship between measures of learning and organizational performance has not been explored. This finding provides a unique extension to existing training evaluation research in two ways: first, the measures

of learning were linked directly to organizational performance, and second, the distinct measures of learning, both understanding and applicability, were linked directly to organizational performance.

Mediating Factors in the Transfer of Training

Training evaluation research supports the inclusion of intervening variables in order to capture the factors that may promote or inhibit the transfer of learned material to on the job performance (Lim & Morris, 2006). Consistent with the training evaluation literature, motivation to transfer, organizational climate, and training design were analyzed as the intervening factors in this study. The results of this study, however, did not support Hypothesis Seven, which stated that motivation to transfer, organizational climate, and training design would mediate the relationship between the measures of learning and individual performance. Previous studies have identified relationships between training attitudes and learning, motivation to transfer and learning (Seyler, Holton, Bates, Burnett, & Carvalho, 1998), organizational climate and performance improvement (Martin, 2010), training design and organizational climate (Velada, Caetano, Michel, Lyons, & Kavanagh, 2007). However, the relationships between these intervening factors and training outcomes have not been examined using a multiple mediation approach.

The multiple mediation analyses did not identify any meaningful relationships at the pre-training, post-training[1], and post-training[2] time measures. However, relationships between the mediating variables and the training outcome variables were identified. For instance, motivation to transfer and applicability were significantly related at all three time measures and organizational climate and applicability were significantly related at

both post-training measures. Further, relationships between the mediating variables were also identified. For example, organizational climate was significantly related to motivation to transfer at the pre-training and post-training[1] time measures and training design was significantly related to organizational climate at the post-training[2] time measure. While previous research has identified similar relationships between these mediating variables (Cromwell & Kolb, 2004; Velada, Caetano, Michel, Lyons, & Kavanagh, 2007), the inclusion of the three time measures in this study extends the analysis to examine these relationships over time. Further, the findings of this study provide a more comprehensive understanding of Yamnill and McLean's (2001) model by providing greater depth to the relationships depicted in the model. The variations in these relationships between the pre-training and post-training measures also present a unique contribution to training evaluation research because the results recognize the role that time plays in the association between the intervening and outcome variables of training transfer.

Overall, the findings of this study contribute to a deeper understanding of Yamnill and McLean's (2001) model of training transfer and of the relationships within and between training outcome and mediating variables. However, given that the study examined the transfer of training over three time periods (a total of three months), examining the progression of change in the outcome variables is also worthwhile. In particular, the following section examines the sequence and duration of change in understanding, applicability, individual performance, and organizational performance following training. The discussion also extends the analysis to discuss the broader issues

of change in order to provide a more comprehensive understanding of the transfer of training in Canadian national sport organizations.

Progression of Performance Change

Although performance is repeatedly stated as an essential component in the evaluation of training programs, it is rarely included in empirical examinations of training transfer (Roberson, Kulik, & Pepper, 2009). Training literature confirms that learning as a result of training does not automatically result in a change in performance. This contradiction highlights the need to analyze performance outcomes when evaluating the transfer of training (Roberson et al., 2009). Further, despite this gap in the training evaluation literature, the progression of change as a result of training is extensively proposed, although not as extensively empirically supported (Goodman & Dean, 1982; Roberson et al., 2009). The transfer of training is ultimately aimed at performance improvement (Weldy, 2009). More specifically, training seeks to change performance (Roberson et al., 2009). Therefore, an examination that includes a discussion of the sequence and duration of performance change effectively captures the transfer of training in its entirety.

Sequence of performance change. As discussed in Chapter Four, prior to training only understanding and individual performance, and individual performance and organizational performance, were significantly related; immediately after training (post-training^{1}) understanding and individual performance were significantly related; and three months after training (post-training^{2}) both understanding and applicability were significantly related to both individual performance and organizational performance. It is also important to note that the association between individual performance and

organizational performance became stronger, although not significant, with each post-training measure. In terms of the sequence of the outcome variables, the results of this study are consistent with several models of change progression and change evaluation (Giberson, Tracey, & Harris, 2006; Goodman & Dean, 1982; Kraiger, Ford, & Salas, 1993).

Goodman and Dean (1982) presented an early model of change progression with a specific focus on the order and persistence of performance change which was captured in a five stage developmental process. Training can be viewed as a planned organizational change, in which constituents of an organization actively seek and take part in training to initiate a change within the organization's performance (Goodman & Dean, 1982). Goodman and Dean (1982) define knowledge of the behaviour as the extent to which the individual has knowledge of the new, or desired, behaviour and identify this as the first stage of change. The second stage involves the actual performance of the new behaviour, which over time leads to the third stage, a preference for the new behaviour. The fourth stage is normative consensus with regards to the appropriateness of the change, and refers to the extent to which the new behaviour has become part of the normative structure of the organization (Goodman & Dean, 1982). The fifth, and final, stage is value consensus, "whereby values and beliefs regarding how to behave are abstracted, generalized, and incorporated into the organization's culture" (Giberson, Tracey, & Harris, 2006, p. 48). Goodman and Dean's (1982) model clearly portrays a progression to change that is initiated through training and also captures both individual and organizational level behaviour as components of change. Evidently, Goodman and Dean's (1982) model provides an appropriate framework to discuss the findings of this study.

Participants in this study attended the Risk Management Workshop (RMW) with hopes of triggering a change towards a proactive and ongoing approach to risk management within their organization. The RMW provided the participants with knowledge of necessary risk management strategies and processes, and the tools for their implementation. This suggests that, following the training, the participants achieved the first stage of Goodman and Dean's (1982) model. Elevated understanding and applicability scores at the post-training[1] time measure suggest that participants had strong knowledge of the new behaviour. The knowledge of the new behaviour is accurately captured through the understanding and applicability variables. Immediately following the RMW, understanding and individual performance were significantly related and this relationship was maintained throughout the three months following the training. This relationship indicates that within a fairly short period of time, understanding is continually related to individual performance.

Similar to Goodman and Dean's (1982) second and third stages, the actual performance and preference of the new behaviour were witnessed following the knowledge of the new behaviour. The final two stages of Goodman and Dean's (1982) model capture changes at the organizational level, where there is consensus within the organization around the appropriateness of the change and the change becomes embedded within the organization's structure. In this study, understanding and applicability were only correlated to organizational performance at the post-training[2] (three months after training) time measure and the correlation between individual performance and organizational performance was highest at post-training[2] (see Figures 8 – 10). This suggests that more time is needed to achieve the final two stages of Goodman

and Dean's (1982) model and reach the organizational level of performance change, further supporting the progressive nature of performance change and the transfer of training.

Kraiger, Ford and Salas (1993) introduced an evaluation model that follows a similar progression to Goodman and Dean's (1982) model, in which they address three learning outcomes – cognitive, affective, and behavioural – as the factors in training evaluation. Within the model, cognitive outcomes relate to the knowledge of the principles and practices introduced in training, affective outcomes refer to the perceived value of the new behaviour, and behavioural outcomes, evidently, relate to the actual performance of the new behaviour (Kraiger et al., 1993). More recently, Giberson, Tracey and Harris (2006) introduced a similar change acceptance model that includes how well participants understand the principles, how much they value the new behavioural expectations, and the extent to which individuals and organizations actually perform the principles of the desired behaviour. Both Kraiger et al.'s (1993) and Giberson et al.'s (2006) models exhibit the progression through the outcome variables associated with training, beginning with knowledge acquisition and finishing with an organizational level change in behaviour.

A similar progression was witnessed in this study with learning (understanding and applicability) as the first stage of performance change, followed by individual performance, and concluding with organizational performance. The relationships between the training outcome variables in this study strongly support a discussion surrounding the progression of performance change. Understanding and individual performance remained positively related at all three time measures, while applicability was only associated with

individual performance three months following training. Further, three months after training, both understanding and applicability were strongly associated with individual performance and organizational performance (see Figure 11). The relationships revealed at each time measure clearly demonstrate a progression from the measures of learning to individual performance level changes and onto organizational performance level changes. This study supports the notion that organizations are the people in them; if the people do not change, there is no organizational change (Schneider, Brief, & Guzzo, 1996).

Duration of performance change. As stated above, there are few studies within the training evaluation field that measure performance outcome factors. This literature gap is furthered by the fact that studies that do include performance outcomes are often cross-sectional in design (Cromwell & Kolb, 2004; Velada & Caetano, 2007). Training evaluation research that adopts a cross-sectional design cannot make claims regarding the impact of training over time (Gegenfurtner, Festner, Gallenberger, Lehtinen, & Gruber, 2009). More specifically, cross-sectional studies are limited in terms of the discussion surrounding the duration of performance change following training. This study not only addresses a gap in the literature by incorporating performance outcome factors within the evaluation of the RMW, but it also follows a longitudinal design. The design and the results of this study provide an excellent opportunity to explore the duration of the impact of training on understanding, applicability, individual performance, and organizational performance.

As presented in Chapter Four, understanding, applicability, individual performance, and organizational performance scores were significantly elevated following the RMW (see Figure 12). These elevated levels remained throughout the

three-month timeline for understanding, individual performance, and organizational performance, with only a slight (non-significant) decrease in all three variables between the post-training[1] and post-training[2] time measures. While the applicability scores were significantly elevated following the RMW, a significant difference between the pre-training and post-training[2] scores was not found. The results indicate that the immediate changes in understanding, individual performance, and organizational performance witnessed at post-training[1] were maintained over the three month time period, while the immediate change in applicability at post-training[1] was not maintained over the three month time period. This demonstrates that the RMW had an extended impact on the understanding of the risk management concepts, the individual performance of the sport managers, and the organizational performance of each NSO. As discussed, the majority of training evaluation research adopts a cross-sectional design which limits the claims that can be made relating to the duration of the impact of training on the outcome variables. The results of this study, however, allow for inferences relating to the sustained impact of training on understanding, individual performance, and organizational performance.

Lim and Morris (2006) uncovered a similar trend, in which significant differences were found between their pre-training and post-training (immediately after and three months after) measures for learning, but not between the two post-training measures. Vermeulen and Admiraal (2009) also found that after an initial increase in knowledge, a slight decrease in knowledge was found at the second post measure. However, similar to this study, an immediate elevation in performance was maintained throughout the post measures (Vermeulen & Admiraal, 2009). While the findings from this study are

consistent with those found by Lim and Morris (2006) and Vermeulen and Admiraal (2009), the unique inclusion of both individual and organizational performance measures generates a more thorough and extended understanding of the impact of training.

In particular, the findings of this study demonstrate that the initial impact of training is very promising. Participants felt as though their understanding of the material covered and its applicability to their job was significantly higher than before training. Participants also felt that their performance and their organization's performance improved after the training program. Interestingly, both measures of performance were highest immediately after training, before the participants returned to their jobs and actually performed. The relationships between and the differences within the outcome variables provide evidence that a progression of performance change occurred.

Levels of Analysis

The theory of training transfer continues to be in a stage of development, where various constructs are examined as training evaluation outcomes and factors that influence the transfer of training. Despite the lack of clarity surrounding a theory of training transfer, there is an emerging consensus surrounding which variables should be included in order to conduct a thorough evaluation (Holton, 1996; Holton, Bates, & Ruona, 2000; Russ-Eft, 2002; Yamnill & McLean, 2001). This study addressed this consensus through the inclusion of motivation to transfer, training design, and organizational climate within the theoretical framework and through the multiple mediation analysis. While these three mediating variables capture individual and organizational influences within the transfer of training, they do not address all of the

influences within the Canadian sport system that may play a role in the transfer of training process.

Again, it is acknowledged that the broader realm of change management was not part of the initial purpose of this study. However, the findings are relevant to this topic and exploring the connection builds a stronger appreciation of the value of training within the Canadian amateur sport context. There are many perspectives and theories that may be utilized to frame the training transfer-change management overview, however for the purpose of this discussion, three levels of analysis – individual, organizational, and systemic – will be employed. This section presents this discussion to address why training may change a sport manager's performance (individual), why training may change a NSOs performance (organizational), and why training may change ways of framing performance within the broader NSO institutional field (systemic).

Individual level of analysis. Organizations are made up of the people within them. In order for any performance change to occur at the organizational level, there must first be a change at the individual level (Schneider, Brief, & Guzzo, 1996). In Noe and Schmitt's (1986) seminal work on training motivation, they suggested that motivation to transfer mediated the relation between learning and behaviour change. Despite this suggestion, few studies have empirically examined motivation to transfer as a mediating variable in the relationship between learning and behaviour change. Instead subsequent studies attempted to define the motivation to transfer construct, analyze the effect of motivation on learning, and examine motivation as a component of an overall individual characteristics construct (Gegenfurtner, Festner, Gallenberger, Lehtinen, & Gruber, 2009; Mathieu, Tannenbaum, & Salas, 1992; Smith, Jayasuriya, Caputi, & Hammer, 2008;

Velada, Caetano, Michel, Lyons, & Kavanagh, 2007). Although motivation to transfer was not a significant mediator between understanding and individual performance and applicability and individual performance at any of the three time measures in this study, it was significantly related to applicability at all three time measures and to organizational performance at post-training^{2}. Evidently, these results offer insight into the individual's role in the transfer of training.

The levels of motivation to transfer throughout the three stages of data collection reveal that participants were most motivated to transfer the training content to their jobs immediately after training (post-training^{1}) (see Figure 13). Although motivation to transfer was slightly lower before training (pre-training) and three months after training (post-training^{2}), these scores were still within the high-very high range on the 5-point Likert scale. The findings indicate that the participants in this study were very motivated at all three time measures to transfer the knowledge and skills acquired through the RMW to their individual performance and their organization's performance. A possible reason for the high levels of motivation can be analyzed through several different theoretical lenses of human behaviour. However, employing the expectancy theory (Vroom, 1964) to training related research has received considerable attention (Gegenfurtner, Veermans, Festner, & Gruber, 2009) and provides a strong basis for understanding why individuals choose to apply their knowledge and skills in their workplace and to further clarify motivation to transfer as a component of the transfer of training process.

Vroom's expectancy theory (1964) attempts to describe the processes through which individuals are motivated by the expected outcomes of behaviour (Smith, Jayasuriya, Caputi, & Hammer, 2008). Vroom's model suggests that motivation is shaped

by the expectation (expectancy) that an act will be followed by a certain outcome (instrumentality) and by the value and desirability of that result (valence) (Smith et al., 2008). Expectancy is defined as the perceived relation between an action and an outcome, while instrumentality refers to the probability of obtaining an outcome (Van Eerde & Thierry, 1996). Valence is defined as any affective orientation towards an outcome, such as attractiveness, desirability, or anticipated satisfaction with outcomes (Van Eerde & Thierry, 1996). Expectancy theory posits that an individual's level of motivation is determined by a combination of valence, instrumentality, and expectancy (VIE) (Smith et al., 2008; Van Eerde & Thierry, 1996). More specifically, an individual's level of motivation is defined by the expectations of specific outcomes resulting from his/her actions and by the attractiveness of those outcomes (Smith et al., 2008).

In the case of this study, motivation was shaped by the expectation that training would lead to highly desired improved performance. More specifically, this suggests that an expectation of improved performance existed, and as a result, increased the initial level of motivation towards the training program at the pre-training time measure. Following the training program, the expectation that improved performance would occur further increased the level of motivation of the participants, as seen in the post-training[1] outcome and motivation to transfer scores. Although motivation to transfer was not a significant mediator between understanding and individual performance and applicability and individual performance, the expectations surrounding the outcomes and valence of training provide insight into the motivation of the participants and the role that individuals play in the transfer of training.

Organizational level of analysis. For training to have an impact at an organizational level, the environment within the organization must be supportive of the changes in behaviour and recognize the organizational climate factors that can influence the transfer of training (Martin, 2010). The results of this study are consistent with previous studies that identified a relationship between organizational climate and the transfer of training (Cromwell & Kolb, 2004; Hawley & Barnard, 2005; Holton, Bates, Seyler, & Carvalho, 1997; Martin, 2010; Tracey, Tannebaum, & Kavanagh, 1995). Despite the fact that organizational climate was not a significant mediator between understanding and individual performance or applicability and individual performance, relationships involving organizational climate did exist at all three time measures. Organizational climate was significantly related to applicability prior to training and immediately after training, indicating that a supportive organizational environment was directly tied to the applicability of the training content. Similarly, organizational climate was significantly related to motivation to transfer prior to training and immediately after training, demonstrating that individuals were more motivated to transfer training content when they received greater peer and supervisor support. Further, three months after training, organizational climate was significantly associated with applicability and organizational performance, indicating that peer and supervisor support were directly linked to the applicability of the RMW content and the performance of the national sport organization.

Organizational climate factors are extensively supported as influential variables in the training literature. This study further supports the conclusions that organizational climate can either promote or inhibit the transfer of training. Martin (2010) found that

trainees in a favourable workplace environment with greater peer support showed greater performance improvement, while Cromwell and Kolb (2004) reported that trainees who received higher levels of support indicated that they were applying, to a higher extent, the knowledge and skills learned in training. Participants in Hawley and Barnard's (2005) study identified the critical roles that peers played in the ability to successfully facilitate the transfer of training over time. The impact of organizational climate on the effective transfer of training is also supported in early training evaluation research, in which the view that a work environment is important for the application of newly acquired skills is extensively supported (Rouiller & Goldstein, 1993; Tracey, Tannenbaum, & Kavanagh, 1995). As the results of this study and the supporting literature demonstrate, interplay among the individual, the organizational climate, and the desired behaviour plays an important role in the transfer of training.

The examination of organizations as systems is widely supported in human resource management and organizational studies literature (Block, 2008; Stewart & Ayres, 2001). Derived from the study of biological systems, systems theory has become popular in organizational literature as a tool to address the complex interplay among individual, organizational, and behavioural aspects of organizational effectiveness (Block, 2008). Systems theory gives primacy to the interrelationships within a system rather than to the individual elements. The emphasis is placed on the environment in which the organization exists and the subsystems that are created within the organization (Morgan, 1986). Organizations contain individuals, who are part of a group or department, which belongs to a larger organizational division (Morgan, 1986). It is from the dynamic interrelationships among these various sub-systems that new properties and a

unique analysis of the system emerge (Stewart & Ayres, 2001). More specifically, looking at the connections within an organization means understanding how changes in one area may cause or relate to changes in another area of the organization. It also means understanding the environmental and contextual factors that influence the organization (Block, 2008). Systems theorists recognize not only the inter-organizational influences, but also highlight the importance of intra-organizational influences (Morgan, 1986). It is through the analysis of the intra-organizational components that the role of organizational climate in the transfer of training is highlighted. Further, the inter-organizational components address the external influences that help define organizational climate (Baum & Rowley, 2002).

As the results of this study demonstrate, organizational climate was significantly associated with motivation to transfer prior to and immediately after training, with applicability at all three time measures, and with organizational performance three months after training. Evidently, the components of the organizations were aligned with the training objectives and outcomes and resulted in various significant relationships. Block (2008) states that the likelihood of causing positive organizational change through training is very slim if the organizational systems are not aligned around the same overall outcomes. Understanding and aligning system variables is an essential part of improving organizational performance (Block, 2008; Stewart & Ayres, 2001). Systemic thinking allows for a holistic approach to organizational performance and the evaluation of training transfer.

While systems theory provides an appropriate lens to examine the organizational interrelationships involved in the transfer of training, organizational adaptation theory extends that examination to capture the changes in performance that result from training. Organizational adaptation theory posits that organizations, in whole or in part, will transform their structures or procedures to cope with a changing environment (Dutton & Dukerich, 1991). Adaptive theorists place preeminence on the environmental factors as the primary determinant of change (Slack & Hinings, 1992). More specifically, emphasis is placed on the characteristics of the workforce, the way in which the workforce is managed and organized in a changing environment (Felstead, Jewson, Phizacklea, & Walters, 2002). In this study, the Risk Management Workshop introduced new principles and processes to the participating NSOs resulting in changes triggered from within the organizations. As organizational adaptation theory suggests, the NSOs transformed their structures and procedures to adapt with the changes introduced through the RMW. The results of this study further support this notion. Organizational climate was directly related to organizational performance three months after training, demonstrating that the NSOs were supportive of the changes introduced through the RMW and resulted in improved organizational performance. An adapting organization can survive the changing conditions of its organizational environment and understands the internal and external components that contribute to the construction of that environment (Schmid, 2004).

Systemic level of analysis. The results of this study demonstrate that the sport managers who took part in the RMW had a stronger understanding of risk management strategies and increased performance following the training. The four outcome variables peaked at the post-training[1] time measure (immediately after training) and slightly

decreased at the post-training[2] time measure. Although this trend has been identified in previous studies on the transfer of training (Lim & Morris, 2006; Vermeulen & Admiraal, 2009), a study of this kind has never been conducted within the Canadian sport context. The Canadian sport context presents a unique case in which the characteristics and structure of the sport system introduce distinct influences on the transfer of training. The impact of training within Canadian national sport organizations can be greatly influenced by the federal government sport policy guidelines that emphasize on-the-field performance and guide funding allocation.

As discussed in Chapter One, Canadian sport policies under-emphasize the performance of sport managers, while over-emphasizing the performance of athletes. This is linked, in large part, to the funding structures that follow a similar mentality (Sport Canada, 2009; Senior Leaders Forum, 2008). Institutional theory posits that action is constrained and shaped by an institutional context (Strang & Sine, 2002), where the routines and protocols that are dominant in shaping that context become the institutionalized norms (Elsbach, 2002). The funding structure and definition of performance in Canadian sport forced NSOs to adopt organizational forms and structures that were conducive to Sport Canada's belief of what constitutes performance.

Institutional theorists declare that regularized structures are the product of ideas, values, and beliefs that originate in the institutional context (Greenwood & Hinings, 1996). In this case, the mentality towards performance was shaped by the structures and forms developed and reiterated by the federal government funding mandates. The taken-for-granted beliefs associated with organizational performance contributed to a definition that undermines the off-the-field indicators and further reinforces the dominance of the

on-the-field indicators. NSOs were taught and socialized to embrace the performance norms, values, and beliefs that were conducive to securing government funding, which meant placing on-the-field performance as the top priority. This definition of performance became infused within the Canadian sport system with a taken-for-granted quality, in which organizations abided by the template set by funding agents.

Further, institutional theory states that the ways in which organizations perform are responses to the institutional pressures that derive from the normative routines and protocols (Greenwood & Hinings, 1996). The embedded mentality towards performance and its evaluation became the de-facto measure of effectiveness and, as a result, shaped the objectives of NSOs. Institutional pressures create a desire for compliance and legitimacy within organizations (Hansen, 2001). For instance, coercive isomorphism results from pressures on organizations by other organizations upon which they are dependent (Boon, Paauwe, Boselie, & Hartog, 2009). The pressures to adhere to government funding mandates while, at the same time, produce effective programming and athletic successes shaped the institutional context and defined the pressures within Canadian national sport organizations. NSOs were constantly striving for organizational legitimacy and succumbed to these pressures as an attempt to achieve that legitimacy (Elsbach, 2002).

A major impetus of this pressure is attributed to the government-initiated process referred to as the Quadrennial Planning Program (QPP), which was introduced in 1983 as a funding tactic in preparation for the 1988 Olympic Games (Slack & Hinings, 1992). The initial implementation of the QPP tied government funding to the production of a plan outlining changes that would be made in order to maximize performance at the

upcoming Games (Slack & Hinings, 1992). The program was extended in 1984 in order to include summer sports and has, since, been the foundation of sport funding in Canada. The QPP defines the funding period and, consequently, the planning period for sport organizations. Since funding is only guaranteed within each quadrennial period, this presents very strong barriers to the planning processes that organizations can initiate and implement (Senior Leaders Forum, 2008). More specifically, the QPP makes it difficult for organizations to actively seek out training opportunities when their funding is so dependent on short-term athletic successes and podium finishes. The pressures imposed by the QPP structure limit the amount of time and resources that can be devoted to off-the-field performance development (D. Bell-Laroche, personal communication, 2010). The uncertainty surrounding funding creates barriers for long-term planning initiatives and continual workforce development since these are not policy or organizational priorities.

Despite being pressured by these policy and funding mandates, Canadian sport managers have expressed a resistance to the taken-for-granted beliefs surrounding the definition of performance in Canadian sport and are in a state of readiness in which the desire to learn and improve is becoming a priority (D. Bell-Laroche, personal communication, 2009). While the traditional federal government funding structure defined performance from a top-down approach and based heavily upon on-the-field criteria, Canadian sport managers are challenging this belief through resistance from the bottom up. This study, which highlights that off-the-field training of NSO managers will also generate performance improvements, is another challenge to the taken-for-granted

beliefs outlined above, and may present a trigger for the deinstitutionalization of these beliefs.

Deinstitutionalization is defined as "the process by which legitimacy of an established or institutionalized organizational practice erodes or discontinues" (Oliver, 1992, p. 564). More specifically, deinstitutionalization refers to the deligitimation of an established organizational norm as a result of challenges or failure to continue to reproduce the legitimated actions (Oliver, 1992). Deinstitutionalization recognizes the political, functional, and social pressures that shape the responses of organizations to institutional pressures (Oliver, 1991). By embracing training opportunities that have a positive impact on NSO performance, Canada's NSO managers are initiating this process of deinstitutionalization towards the norms and beliefs of what constitutes performance and moving towards re-institutionalizing an approach towards performance that recognizes the off-the-field components (Senior Leaders Forum, 2008).

The process of deinstitutionalization and re-institutionalization towards defining performance consists of political, functional, and social pressures that contribute to the dissipation of the institutionalized definition of performance. The political pressures encompass the conflicting internal and external definitions of performance (Oliver, 1992). The incorporation of off-the-field performance criteria challenges the traditional on-the-field based approach to performance. The functional and social pressures capture the changing sport environment and the changing organizational environment (Oliver, 1992). New initiatives, such as the Long Term Athlete Development (LTAD) model, have been introduced into the Canadian sport landscape and contribute to a more process-focused management approach and a shift towards the recognition of off-the-field

performance criteria. The mentality associated with the LTAD model shifts the definition of performance because it recognizes internal organizational processes and promotes a desire to learn and develop (D. Bell-Laroche, personal communication, 2010). A driving force in challenging the institutionalized performance norms was discussed at the 2008 Senior Leaders Forum and highlights the lack of human resources as the most serious challenge for Canadian sport organizations:

> Many exciting innovations are being led nationally…but it is becoming increasingly difficult for national sport organizations and, in particular, provincial/territorial sport organizations to keep pace, deliver services, and effectively implement change. While financial resources are an issue, human resources is highlighted as the most serious challenge (p. 3).

Evidently, not only do national sport organizations require significant financial investments, but they are also in need of human resource development initiatives (Senior Leaders Forum, 2008).

The need for HRD initiatives underpins the resistance towards the taken-for-granted beliefs regarding organizational performance. The desire of NSO managers to learn and improve has faced funding constraints and, as a result, NSO managers were left with minimal opportunities for training, despite the strong need and demand. The results of this study emphasize the impact of training programs within Canadian sport organizations and also demonstrate the desire of sport managers to take part in training initiatives. The sport context provides a highly motivated group of participants that are eager to learn and apply learning to improve performance, both at the individual and

organizational levels. These results, combined with the strong desire of Canada's sport managers, reveal a potential shift in the taken-for-granted beliefs of what defines performance. As the results demonstrate, training is an important and effective tool to improve the performance of sport managers and their organizations. As Stuart (2009) states, a direct link between off-the-field and on-the-field performance exists. Evidently, the results of this study and the shift in mentality towards performance within NSOs are challenging the institutionalized norms and creating resistance to the pressures to comply with a limited definition of performance.

Limitations

While this study provides unique insight into the transfer of training process and the factors that influence the transfer of training, study limitations must be considered. First, the generalizability of the results is limited to this sample and to participants of the Risk Management Workshop. Due to the content-specific design of the instrument, the results of this study are only transferable to those participants who take part in the same workshop, with the same learning and performance objectives. Second, all of the measures in this study were self-reported. The majority of training evaluation research utilizes self-reported measures to assess the transfer of training (Burke & Baldwin, 1999; Egan, Yang, & Bartlett, 2004; Gegenfurtner, Festner, Gallenberger, Lehtinen, & Gruber, 2009; Lim & Morris, 2006). However, the use of self-reported data can produce inflated results (Burke & Baldwin, 1999) whereas the use of more objective measures, such as observation or external evaluation may produce more realistic findings (Egan, Yang, & Bartlett, 2004). However, despite the limitations that exist when using self-reported measures for performance outcomes, it can also be argued that trainees are the most

important and valid source of performance measurement as their perceptions will drive their motivation and their performance (Velada, Caetano, Michel, Lyons, & Kavanagh, 2007).

Third, while the design of this study provides a unique approach to the analysis of training in national sport organizations, the design can also be viewed as a weakness. The instrument utilized in this study was specifically created for the Risk Management Workshop and followed a content-specific design. A dearth of valid and reliable training-performance instruments exist within the HR training literature. Consequently, pre-established instruments were unavailable or were not applicable to the training objectives of the RMW. The use of a new instrument minimizes the content validity and, unfortunately, the systematic and rigorous validation of the instrument was not conducted prior to utilizing the instrument. Further, while the longitudinal design of this study allows for analysis over a period of time, this study did not include a control group. The use of a control group permits a comparison between participants that receive a treatment or intervention versus those that do not (Keppel & Zedeck, 2006). More specifically, the incorporation of a control group would allow for a more detailed analysis of the impact of training on the sport managers who participated in the RMW compared to those who did not.

Finally, and perhaps most importantly, the sample size used in this study was smaller than desired. Several studies in training evaluation have faced similar limitations, where the design of the study reduced the number of potential participants in the study and resulted in a smaller than desired sample (Axtell, Maitlis, & Yearta, 1997; Cromwell & Kolb, 2004; Mathieu, Tannebaum, & Salas, 1992; Roberson, Kulik, & Pepper, 2009).

As discussed throughout Chapter Four, participant retention presented a major challenge. With three time measures, participant commitment plays a large role in defining the final sample size. The pressures and seasonal aspects of sport in Canada contributed to the decline in participant commitment throughout the three stages of data collection. For example, as stated earlier, all participants from NSO4 were removed prior to analysis due to the fact that there were no respondents at the three-month data collection. The lack of responses can be attributed in part to the three-month data collection occurring during the sport's international championships, which was beyond the control of the design of this study.

The final sample size was also influenced by the scheduling of the RMWs. The RMWs were scheduled and administered by an external party, which left the researcher with little control over the number of workshops offered within the timeline of this research project. In the planning stages of this study, an estimated number of RMWs was calculated based on organizational interest. However, based on seasonal and organizational constraints, several of these organizations were unable to attend the RMW within the projected timeline of this study, resulting in a smaller than desired sample size from the start. The size of the final sample presents a key limitation to this study and, more specifically, the statistical conclusions that can be made. However, the use of a content-specific design of training evaluation, the representation within the final sample, and a need for field based empirical research present justification and support for the final sample size.

Training evaluation research promotes the use of content-specific measures to evaluate a specific training program (Kirwan & Birchall, 2006). One of the major issues

regarding the use of a smaller sample is that there is no opportunity to perform factor analysis on the items used in the evaluation or conduct rigorous validation of the instrument. However, due to the content-specific nature of training evaluation, there are few models or instruments that are transferable to all training contexts. In order to capture the appropriate learning and performance outcomes associated with a specific training program, those specific measures must be included in the evaluation measures (Lim & Morris, 2006). As a result, participants in the study are rating relevant measures and providing insightful results for the specific outcome objectives of the RMW.

The representation within the final sample is also an important factor to consider. The Canadian sport system consists of 56 national sport organizations, of which five are included in the final sample, representing 9% of the organizations to which the findings appropriately transfer. Between five and seven of the top executives of each participating NSO attended the RMW and, subsequently, participated in this study. Based on the size of Canadian NSOs, this number represents close to all of the top level staff and volunteers associated with each organization. As such, the quality of participants within the final sample is very high. Similar to the qualitative sampling strategy of purposeful sampling, the sample in this study represents an information-rich and illuminative group of participants who offer great insight into the impact of training and the contextual aspects of this study (Patton, 2002).

Despite the fact that the final sample size of this study is smaller than desired, the findings address a large need in Canadian sport and present extremely important practical implications. Not only is this the first study to address training in the context of national sport organizations, but the design of this study was driven by a need in the field. As

discussed above, the eagerness of Canadian sport managers for training opportunities and the funding and policy structures present two very distinct, and conflicting, objectives. New and exciting initiatives have been introduced in Canadian sport (i.e. LTAD), creating additional pressures upon, and responsibilities for, sport managers. This study highlights the importance of training initiatives in sport organizations and demonstrates that training is an extremely valuable investment that needs to be recognized at the policy level.

Implications and Future Research

Building on the existing body of training transfer literature, this study further contributed to the conceptualization of the transfer of training with important practical underpinnings. As such, both future research recommendations and practically-based implications are presented in this section. First, the research design implemented in this study highlights the benefits of longitudinal studies in the evaluation of training. As displayed in this study, longitudinal research allows for conclusions relating to the duration of the impacts of training and an analysis of the influential factors over time. Training evaluation that follows a longitudinal design can also provide the opportunity for claims relating to the appropriate timelines for follow-up training sessions. As the majority of training evaluation research is cross-sectional in design (Cromwell & Kolb, 2004), future research should adopt a longitudinal design to allow for a more detailed discussion of the relationships. Subsequent longitudinal studies would further contribute to the discussion of the progression of performance change that was raised in this study. Ideally, training programs will have a sustained impact on the participating individuals

and organizations and longitudinal studies allow for the examination of that impact over a set period of time.

Second, the use of Preacher and Hayes' (2007) multiple mediation analysis introduced an innovative approach to the evaluation of the transfer of training. Extending on this line of inquiry, future research should incorporate mediation analysis to examine variables that may influence the relationships between and among training outcome variables. Since training evaluation literature supports the notion that influential variables exist that mediate the transfer of training, multiple mediation is an extremely appropriate methodological approach to the examination of these relationships. Incorporating mediation analysis into the evaluation of training in various contexts and samples would provide dynamic insight into the relationships that contribute to the effective transfer of training.

Multiple mediation analysis that utilizes the bootstrapping technique is a relatively novel approach. Consequently, some controversy surrounds the use of the bootstrapping technique due to its re-sampling processes (Preacher & Hayes, 2007). The disadvantages associated with bootstrapping include the fact that the same confidence intervals will not be obtained if the same sample is subjected to bootstrapping, raw data must be available, and bootstrapping is only useful if the distributions in the sample closely reflect the population distributions (Preacher & Hayes, 2007). While it is important to recognize these disadvantages, the advantages offer support for the use of bootstrapping in future training evaluation research.

Due to the computationally intensive methods associated with bootstrapping, it does not rely on statistical assumptions and, as a result, allows researchers to use smaller sample sizes and produce more accurate inferences (MacKinnon, Lockwood, & Williams, 2004; Preacher & Hayes, 2007). Statisticians have also supported the use of the bootstrapping technique as one of the better methods for estimating and testing hypotheses in multiple mediation analysis (MacKinnon et al., 2004; Preacher & Hayes, 2007). Finally, the bootstrapping technique produces asymmetric confidence intervals that cannot be obtained through other methods of mediation analysis (Preacher & Hayes, 2007). Evidently, the advantages associated with bootstrapping demonstrate its utility in multiple mediation analysis. Future training evaluation research should not only implement multiple mediation analysis, but also incorporate the bootstrapping technique when applicable.

Third, the theoretical framework adopted for this study included the three major outcome variables and three mediating variables in the analysis of the transfer of training. As discussed throughout Chapter Two, these variables are representative of the consensus surrounding the theory of training transfer, despite its lack of clarity. Consequently, the findings of this study present implications relating to the theory of training transfer. This study further demonstrates the importance of including measures of learning, individual performance, and organizational performance as the outcome variables of training evaluation. In addition, the motivation to transfer, training design, and organizational climate variables captured the individual, situational, and organizational influences on the transfer of training.

The inclusion of these outcome and influencing variables provides strong support for the theory of training transfer and further contributes to its development. Future research should extend this line of inquiry and include these outcome and mediating variables in order to move towards a more comprehensive theory of training transfer. As discussed, the results of this study supported the analysis of understanding and applicability as distinct measures of learning. This finding alone presents a major adaptation to Yamnill and McLean's (2001) model that divides learning into understanding and applicability (see Figure 14). This adapted model also demonstrates the need to analyze the relationships between both measures of learning (understanding and applicability) and individual performance and the mediating variables. Future research should address this distinction in order to further support the findings of this study and extend the understanding surrounding learning as an outcome of training.

While the consensus in training evaluation supports the analysis of motivation to transfer, training design, and organizational climate as intervening variables, future research should examine these variables in more detail and include the examination of other potential mediating factors. Motivation to transfer, training design, and organizational climate are complex constructs. As such, future research should examine each of these variables in more detail to fully define and demonstrate the components of each variable. Previous research has identified ability (Kirwan & Birchall, 2006), self-efficacy (Holton, 1996), and learner readiness (Holton, Bates, & Ruona, 2000) as potential intervening variables in the transfer of training. Thus, these variables should be examined in future training evaluation research in order to determine their role in the transfer of training.

Last, while human resource management literature extensively discusses the transfer of training, no previous study has examined the transfer of training in the Canadian sport context. Further, in HRM literature, few empirical studies have utilized a qualitative methodology to examine the transfer of training (Hawley & Barnard, 2005; Nikandrou, Brinia, & Bereni, 2009). Future research should focus on integrating a qualitative approach into the evaluation of training. Specifically in the sport context, future research should adopt an exploratory approach to further the understanding of the influential factors involved in the transfer of training and to further the development of the measurement instrument. Qualitative exploratory research would add depth and detail to the findings of this study while providing insight into the appropriateness of the measures used and descriptive information about the elements involved in the transfer of training (Patton, 2002).

While this study presents important implications for training evaluation research, this study was driven by a practical gap in the Canadian sport system. As such, several practically-based implications can be derived from the results of this study. Above all, this study demonstrates that training does impact the understanding, applicability, individual performance, and organizational performance of national sport organization managers. Although this presents important implications for training evaluation research, this also assertively highlights the importance of training within the Canadian sport system. Evidently, investing in the human resources of NSOs plays an important role in improving individual and organizational performance, something that is consistently strived for in the Canadian sport system. However, as discussed throughout this document, opportunities for training are limited. The results of this study very clearly

exemplify the need for continual workforce development in Canadian sport. Further, the open-ended responses collected demonstrate an enthusiasm and desire for training opportunities and an on-going desire to improve. As the first study to examine the transfer of training in Canadian national sport organizations in such a detailed fashion, the findings of this study act as an important step towards bridging the gap between on-the-field and off-the-field performance in Canadian sport.

Conclusion

The results and discussion of this study demonstrate that the Risk Management Workshop significantly impacted the learning (understanding and applicability), individual performance, and organizational performance of the participating sport managers. Further, the results of this study provided the basis for a detailed discussion of the progression of performance change that resulted from the RMW. Despite the lack of significance found in the multiple mediation analysis, the inclusion of the motivation to transfer, training design, and organizational climate variables provided insight into the individual, organizational, and systemic levels of analysis. Through this discussion, both the ‘what’ and the ‘why’ of the transfer of training were explored. This study addressed an important area of concern in Canadian sport and exemplified the need for training to be incorporated into organizational mandates. Training opportunities are required in order to create a mentality of continual development and build a focus on the off-the-field components of performance in sport.

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Table 1

Participant Demographics

	M	*SD*	Skewness	Kurtosis	*t*	*p*	*d*
Age	42.10	10.08	0.13	-0.64	-1.36	0.185	-0.41
Years with NSO	7.48	7.34	2.08	5.43	0.89	0.382	0.27
Years with Sport	6.13	8.02	1.55	2.04	-0.78	0.447	-0.24
Years with Any	12.78	12.28	1.08	0.63	-0.21	0.835	-0.06
	%				χ^2	*p*	phi
NSO							
NSO1	22.70						
NSO2	22.70						
NSO3	18.20						
NSO5	22.70						
NSO6	13.60						
Gender					0.05	0.832	-0.04
Male	54.50						
Female	45.50						
Work Status					4.26	0.119	0.34
Employed full-time	100.00						
Employed part-time	0						
Contractual	0						
Educational Background					6.44	0.169	0.44
University Degree	50.00						
Masters Degree	45.50						
Doctorate Degree	4.50						
Years with NSO							
<5	54.50						
6 – 10	18.20						
11 – 15	18.20						
16 – 20	0						
21 – 25	0						
26 – 30	0						
31 – 35	4.50						

Years with Sport	
<5	40.90
6 – 10	13.60
11 – 15	4.50
16 – 20	4.50
21 – 25	0
26 – 30	4.50
31 – 35	0
Years with Any	
<5	27.30
6 – 10	22.70
11 – 15	4.50
16 – 20	9.10
21 – 25	4.50
26 – 30	4.50
31 – 35	4.50
36 – 40	0
>41	4.50

Note. N = 22. NSO = National Sport Organization. Years with NSO = Number of years worked with current NSO; Years with Sport = Number of years worked in any sport organizations; Years with Any = Number of years worked in any industry. d = effect size; χ^2 = chi square; phi = phi coefficient.

Table 2

Descriptive Statistics for Pre-training, Post-training[1], and Post-training[2]

	Pre-training			Post-training[1]			Post-training[2]		
Variable	*M* (*SD*)	Skewness	Kurtosis	*M* (*SD*)	Skewness	Kurtosis	*M* (*SD*)	Skewness	Kurtosis
Understanding	3.04 (0.61)	0.76	0.44	3.91 (0.46)	0.48	-0.25	3.88 (0.47)	0.25	0.68
Applicability	4.17 (0.77)	-0.70	-0.58	4.41 (0.62)	-0.82	-0.69	4.36 (0.68)	-1.00	0.18
Individual Performance	3.30 (0.59)	-0.31	-0.30	3.84 (0.48)	0.31	-0.01	3.74 (0.50)	0.32	0.54
Organizational Performance	2.77 (0.72)	-0.17	0.76	3.52 (0.71)	-0.11	-0.16	3.27 (0.58)	0.17	-0.60
Motivation to Transfer	4.17 (0.70)	-0.04	-1.22	4.47(0.50)	-0.34	-1.40	4.17 (0.61)	-0.21	-0.44
Organizational Climate	3.83 (0.63)	0.12	-0.48	4.17 (0.55)	-0.67	0.63	3.93 (0.47)	-0.06	-0.75
Training Design	–	–	–	4.45 (0.37)	-1.34	3.50	4.23 (0.37)	0.59	0.23

Note. $N = 22$. *M* = mean; *SD* = standard deviation.

Table 3

Cronbach alphas and Estimates of Internal Consistency for Pre-training, Post-training[1], and Post-training[2]

Variable	Cronbach α	N of items	Cronbach α's if item deleted
LU pre	0.95	19	0.94 – 0.95
LA pre	0.97	19	0.97 – 0.97
IP pre	0.88	6	0.83 – 0.89
OP pre	0.93	6	0.91 – 0.94
M pre	0.96	6	0.95 – 0.97
OC pre	0.95	9	0.94 – 0.96
LU post[1]	0.93	19	0.92 – 0.93
LA post[1]	0.97	19	0.96 – 0.97
IP post[1]	0.90	6	0.85 – 0.91
OP post[1]	0.96	6	0.95 – 0.96
M post[1]	0.93	6	0.90 – 0.94
OC post[1]	0.95	9	0.94 – 0.95
TD post[1]	0.86	7	0.82 – 0.88
LU post[2]	0.95	19	0.94 – 0.95
LA post[2]	0.97	19	0.97 – 0.98
IP post[2]	0.91	6	0.87 – 0.91
OP post[2]	0.92	6	0.90 – 0.94
M post[2]	0.95	6	0.94 – 0.96
OC post[2]	0.89	9	0.86 – 0.89
TD post[2]	0.78	7	0.60 – 0.73

Note. LU = Understanding (Learning); LA = Applicability (Learning); IP = Individual Performance; OP = Organizational Performance; M = Motivation to Transfer; OC = Organizational Climate; TD = Training Design. Cronbach α's if item deleted = the range of α's for each variable.

Table 4

Bivariate Correlation Analysis between Understanding and Applicability for Pre-training, Post-training[1], and Post-training[2]

	Pre-training		Post-training[1]		Post-training[2]	
	1	2	1	2	1	2
1. Understanding	–	0.21 (-0.23-0.58)	–	0.32 (-0.18-0.65)	–	0.25 (-0.19-0.61)
2. Applicability	0.21	–	0.32	–	0.25	–

Note. $N = 22$. Values in parentheses represent 95% Confidence Intervals.

Table 5

Pre-training Correlation Matrix for All Study Variables

	1	2	3	4	5	6
1. Understanding	1.00					
2. Applicability	0.21 (-0.23-0.58)	1.00				
3. Individual Performance	0.59** (0.23-0.81)	-0.13 (-0.52-0.31)	1.00			
4. Organizational Performance	0.14 (-0.30-0.53)	-0.16 (-0.54-0.28)	0.63** (0.28-0.83)	1.00		
5. Motivation to Transfer	-0.02 (-0.44-0.41)	0.49* (0.09-0.76)	-0.01 (-0.43-0.41)	0.03 (-0.40-0.45)	1.00	
6. Organizational Climate	0.12 (-0.32-0.52)	0.49* (0.09-0.76)	0.20 (-0.24-0.57)	0.28 (-0.16-0.63)	0.59** (0.23-0.81)	1.00

Note. $N = 22$. ** $p < 0.01$, * $p < 0.05$. Values in parentheses represent 95% Confidence Intervals.

Table 6

Post-training[1] Correlation Matrix for All Study Variables

	1	2	3	4	5	6	7
1. Understanding	1.00						
2. Applicability	0.32 (-0.12-0.65)	1.00					
3. Individual Performance	0.83** (0.63-0.93)	0.26 (-0.18-0.61)	1.00				
4. Organizational Performance	0.24 (-0.20-0.60)	0.11 (-0.34-0.50)	0.26 (-0.18-0.61)	1.00			
5. Motivation to Transfer	0.20 (-0.24-0.57)	0.71** (0.41-0.87)	0.24 (-0.20-0.60)	0.17 (-0.22-0.55)	1.00		
6. Organizational Climate	0.19 (-0.25-0.57)	0.57** (0.20-0.80)	0.17 (-0.22-0.55)	0.39 (-0.04-0.70)	0.50* (0.10-0.76)	1.00	
7. Training Design	0.12 (-0.32-0.52)	0.07 (-0.36-0.48)	-0.18 (-0.56-0.26)	0.02 (-0.41-0.44)	0.14 (-0.30-0.53)	0.38 (-0.05-0.69)	1.00

Note. $N = 22$. ** $p < 0.01$, * $p < 0.05$. Values in parentheses represent 95% Confidence Intervals.

Table 7

Post-training[2] Correlation Matrix for All Study Variables

	1	2	3	4	5	6	7
1. Understanding	1.00						
2. Applicability	0.25 (-0.19-0.61)	1.00					
3. Individual Performance	0.51* (0.11-0.77)	0.42* (-0.00-0.71)	1.00				
4. Organizational Performance	0.36 (-0.07-0.68)	0.43* (0.01-0.72)	0.32 (-0.12-0.65)	1.00			
5. Motivation to Transfer	0.16 (-0.28-0.54)	0.54* (0.15-0.78)	0.18 (-0.26-0.56)	0.42* (-0.00-0.71)	1.00		
6. Organizational Climate	0.39 (-0.04-0.70)	0.54* (0.15-0.78)	0.09 (-0.34-0.49)	0.63** (0.28-0.83)	0.36 (-0.07-0.68)	1.00	
7. Training Design	0.48* (0.07-0.75)	0.19 (-0.25-0.57)	0.19 (-0.25-0.57)	0.29 (-0.15-0.63)	0.33 (-0.11-0.66)	0.45* (0.04-0.73)	1.00

Note. $N = 22$. ** $p < 0.01$, * $p < 0.05$. Values in parentheses represent 95% Confidence Intervals.

Table 8

Repeated Measures Analysis of Variance between Pre-training, Post-training[1] and Post-training[2] for Understanding, Applicability, Individual Performance, and Organizational Performance

Outcome Variable	*F*	η_p^2	Power
Understanding	50.06***	0.704	1.000
Applicability	2.29	0.098	0.439
Individual Performance	15.57***	0.426	0.999
Organizational Performance	11.25***	0.349	0.989

Note. $N = 22$. η_p^2 = effect size. ***$p < 0.001$.

Table 9

Paired-samples t-tests for Understanding, Applicability, Individual Performance, and Organizational Performance between Pre-training, Post-training[1], and Post-training[2]

	Paired Differences			
	M	*SD*	*t*	*d*
Understanding PRE – Understanding POST1	-0.87	0.53	-7.63***	-1.69
Understanding POST1 – Understanding POST2	0.03	0.40	0.41	0.09
Understanding PRE – Understanding POST2	-0.83	0.44	-8.85***	-1.98
Applicability PRE – Applicability POST1	-0.24	0.48	-2.35**	-0.53
Applicability POST1 – Applicability POST2	0.05	0.55	0.42	0.09
Applicability PRE – Applicability POST2	-0.19	0.63	-1.43	-0.31
Individual Performance PRE – Individual Performance POST1	-0.54	0.52	-4.84***	-1.05
Individual Performance POST1 – Individual Performance POST2	0.09	0.48	0.92	0.20
Individual Performance PRE – Individual Performance POST2	-0.45	0.45	-4.63***	-1.01
Organizational Performance PRE – Organizational Performance POST1	-0.75	0.79	-4.48***	-0.96
Organizational Performance POST1 – Organizational Performance POST2	0.25	0.76	1.52	0.33
Organizational Performance PRE – Organizational Performance POST2	-0.50	0.72	-3.27**	-0.71

Note. *d* = Effect size (Cohen, 1988). *** $p < 0.001$; ** $p < 0.01$.

Table 10

Pre-training Correlation Analysis and Simple Linear Regression for Understanding, Applicability, Individual Performance, and Organizational Performance

	Understanding				Applicability				Individual Performance				Organizational Performance			
	r	R^2_{adj}	*F*	β	*r*	R^2_{adj}	*F*	β	*r*	R^2_{adj}	*F*	β	*r*	R^2_{adj}	*F*	β
Understanding	–	–	–	–	0.21	–	–	–	0.59**	0.32	10.79**	0.59**	0.14	-0.03	0.37	0.14
Applicability	0.21	–	–	–	–	–	–	–	-0.13	-0.03	0.33	-0.13	-0.16	-0.02	0.53	-0.16
Individual Performance	0.59**	0.32	10.79**	0.59**	-0.13	-0.03	0.33	-0.13	–	–	–	–	0.63***	0.37	13.11**	0.63**
Organizational Performance	0.14	-0.03	0.37	0.14	-0.16	-0.02	0.53	-0.16	0.63***	0.37	13.11**	0.63**	–	–	–	–

Note. *** $p < 0.001$; ** $p < 0.01$

Table 11

Post-training[1] Correlation Analysis and Simple Linear Regression for Understanding, Applicability, Individual Performance, and Organizational Performance

	Understanding				Applicability				Individual Performance				Organizational Performance			
	r	R^2_{adj}	*F*	β	*r*	R^2_{adj}	*F*	β	*r*	R^2_{adj}	*F*	β	*r*	R^2_{adj}	*F*	β
Understanding	–	–	–	–	0.32	–	–	–	0.83***	0.68	45.08***	0.83***	0.24	0.01	1.24	0.24
Applicability	0.32	–	–	–	–	–	–	–	0.26	0.04	1.45	0.26	0.11	-0.04	0.23	0.11
Individual Performance	0.83***	0.68	45.08***	0.83***	0.26	0.04	1.45	0.26	–	–	–	–	0.26	0.02	1.41	0.26
Organizational Performance	0.24	0.01	1.24	0.24	0.11	-0.04	0.23	0.11	0.26	0.02	1.41	0.26	–	–	–	–

Note. *** $p < 0.001$; ** $p < 0.01$

Table 12

Post-training[2] Correlation Analysis and Simple Linear Regression for Understanding, Applicability, Individual Performance, and Organizational Performance

	Understanding				Applicability				Individual Performance				Organizational Performance			
	r	R^2_{adj}	*F*	β	*r*	R^2_{adj}	*F*	β	*r*	R^2_{adj}	*F*	β	*r*	R^2_{adj}	*F*	β
Understanding	–	–	–	–	0.25	–	–	–	0.51**	0.22	6.92*	0.51*	0.36*	0.09	3.00	0.36
Applicability	0.25	–	–	–	–	–	–	–	0.42*	0.13	4.26*	0.42*	0.43*	0.15	4.59*	0.43*
Individual Performance	0.51**	0.22	6.92*	0.51*	0.42*	0.13	4.26*	0.42*	–	–	–	–	0.32	0.06	2.35	0.32
Organizational Performance	0.36*	0.09	3.00	0.36	0.43*	0.15	4.59*	0.43*	0.32	0.06	2.35	0.32	–	–	–	–

Note. *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table 13

Pre-training Bootstrapped Indirect Effects of Understanding on Individual Performance through Mediators and Contrasting Indirect Effects

Variable	Point Estimate	BCa CI	R^2_{adj}
Total	0.0256	-0.0828 – 0.5146	0.27*
Motivation to Transfer	0.0018	-0.1226 – 0.1690	
Organizational Climate	0.0238	-0.0421 – 0.4086	
C1	-0.0221	-0.6697 – 0.0867	

Note. Number of bootstrap resamples = 5000. BCa CI = Bias Corrected and Accelerated Confidence Intervals. C1 = Indirect Effect Contrast between Motivation to Transfer and Organizational Climate. * $p < 0.05$.

Table 14

Pre-training Bootstrapped Indirect Effects of Applicability on Individual Performance through Mediators and Contrasting Indirect Effects

Variable	Point Estimate	BCa CI	R^2_{adj}
Total	0.1049	-0.1778 – 0.5490	0.52
Motivation to Transfer	-0.0449	-0.3021 – 0.2207	
Organizational Climate	0.1498	-0.0505 – 0.6444	
C1	-0.1947	-0.8161 – 0.2072	

Note. Number of bootstrap resamples = 5000. BCa CI = Bias Corrected and Accelerated Confidence Intervals. C1 = Indirect Effect Contrast between Motivation to Transfer and Organizational Climate.

Table 15

Post-training[1] Bootstrapped Indirect Effects of Understanding on Individual Performance through Mediators and Contrasting Indirect Effects

Variable	Point Estimate	BCa CI	R^2_{adj}
Total	-0.0068	-0.1932 – 0.1907	0.74^{***}
Motivation to Transfer	0.0142	-0.0431 – 0.2020	
Organizational Climate	0.0202	-0.0340 – 0.2336	
Training Design	-0.0412	-0.2133 – 0.0788	
C1	-0.0060	-0.2391 – 0.1376	
C2	0.0554	-0.0971 – 0.2688	
C3	0.0614	-0.0786 – 0.3351	

Note. Number of bootstrap resamples = 5000. BCa CI = Bias Corrected and Accelerated Confidence Intervals. C1 = Indirect Effect Contrast between Motivation to Transfer and Organizational Climate; C2 = Indirect Effect Contrast between Motivation to Transfer and Training Design; C3 = Indirect Effect Contrast between Organizational Climate and Training Design. *** $p < 0.001$.

Table 16

Post-training[1] Bootstrapped Indirect Effects of Applicability on Individual Performance through Mediators and Contrasting Indirect Effects

Variable	Point Estimate	BCa CI	R^2_{adj}
Total	0.1215	-0.2757 – 0.5562	-0.07
Motivation to Transfer	0.0730	-0.2672 – 0.4416	
Organizational Climate	0.0638	-0.2128 – 0.4481	
Training Design	-0.0153	-0.3013 – 0.0820	
C1	0.0092	-0.5406 – 0.6298	
C2	0.0882	-0.2933 – 0.5803	
C3	0.0790	-0.1907 – 0.5226	

Note. Number of bootstrap resamples = 5000. BCa CI = Bias Corrected and Accelerated Confidence Intervals. C1 = Indirect Effect Contrast between Motivation to Transfer and Organizational Climate; C2 = Indirect Effect Contrast between Motivation to Transfer and Training Design; C3 = Indirect Effect Contrast between Organizational Climate and Training Design.

Table 17

Post-training^2 Bootstrapped Indirect Effects of Understanding on Individual Performance through Mediators and Contrasting Indirect Effects

Variable	Point Estimate	BCa CI	R^2_{adj}
Total	-0.0764	-0.4874 – 0.3034	0.13
Motivation to Transfer	0.0301	-0.0562 – 0.3583	
Organizational Climate	-0.0693	-0.6187 – 0.0758	
Training Design	-0.0373	-0.4674 – 0.1626	
C1	0.0993	-0.1062 – 0.9578	
C2	0.0674	-0.1249 – 0.6059	
C3	-0.0320	-0.5333 – 0.2792	

Note. Number of bootstrap resamples = 5000. BCa CI = Bias Corrected and Accelerated Confidence Intervals. C1 = Indirect Effect Contrast between Motivation to Transfer and Organizational Climate; C2 = Indirect Effect Contrast between Motivation to Transfer and Training Design; C3 = Indirect Effect Contrast between Organizational Climate and Training Design.

Table 18

Post-training[2] Bootstrapped Indirect Effects of Applicability on Individual Performance through Mediators and Contrasting Indirect Effects

Variable	Point Estimate	BCa CI	R^2_{adj}
Total	-0.1266	-0.5498 – 0.1759	0.07
Motivation to Transfer	-0.0412	-0.3802 – 0.1764	
Organizational Climate	-0.1200	-0.4953 – 0.0362	
Training Design	0.0346	-0.0554 – 0.3452	
C1	0.0788	-0.2195 – 0.6063	
C2	-0.0758	-0.4954 – 0.1488	
C3	-0.1546	-0.7105 – 0.0530	

Note. Number of bootstrap resamples = 5000. BCa CI = Bias Corrected and Accelerated Confidence Intervals. C1 = Indirect Effect Contrast between Motivation to Transfer and Organizational Climate; C2 = Indirect Effect Contrast between Motivation to Transfer and Training Design; C3 = Indirect Effect Contrast between Organizational Climate and Training Design.

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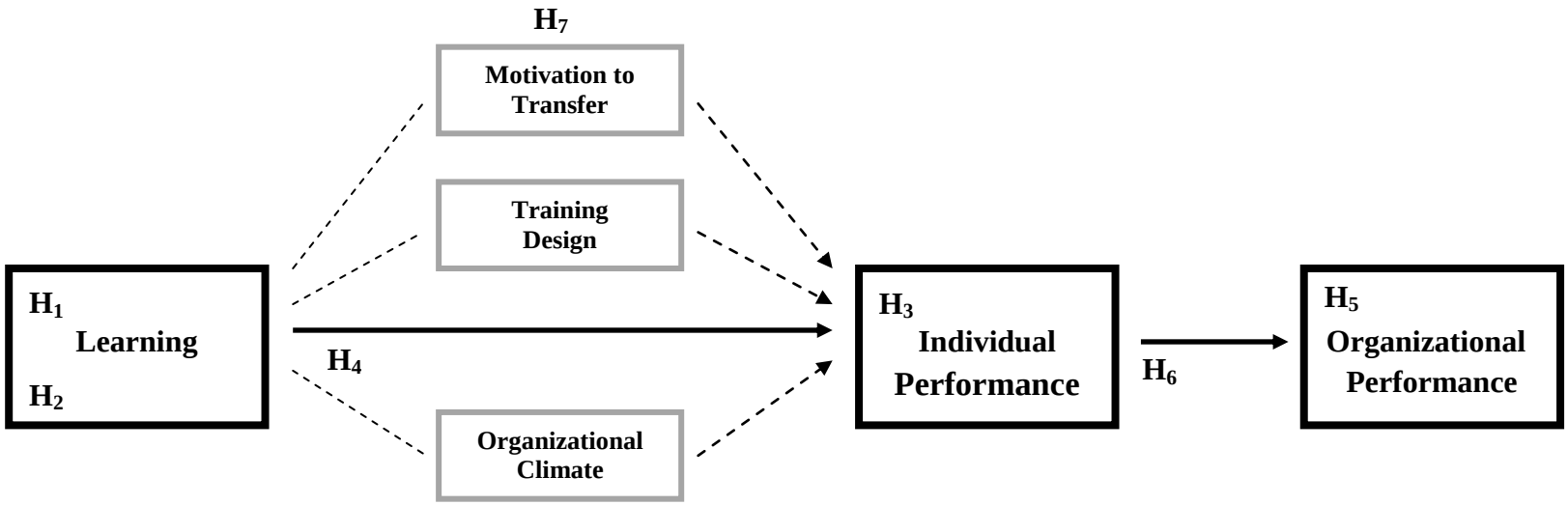


Figure 1: Model of Training Transfer with Proposed Hypotheses

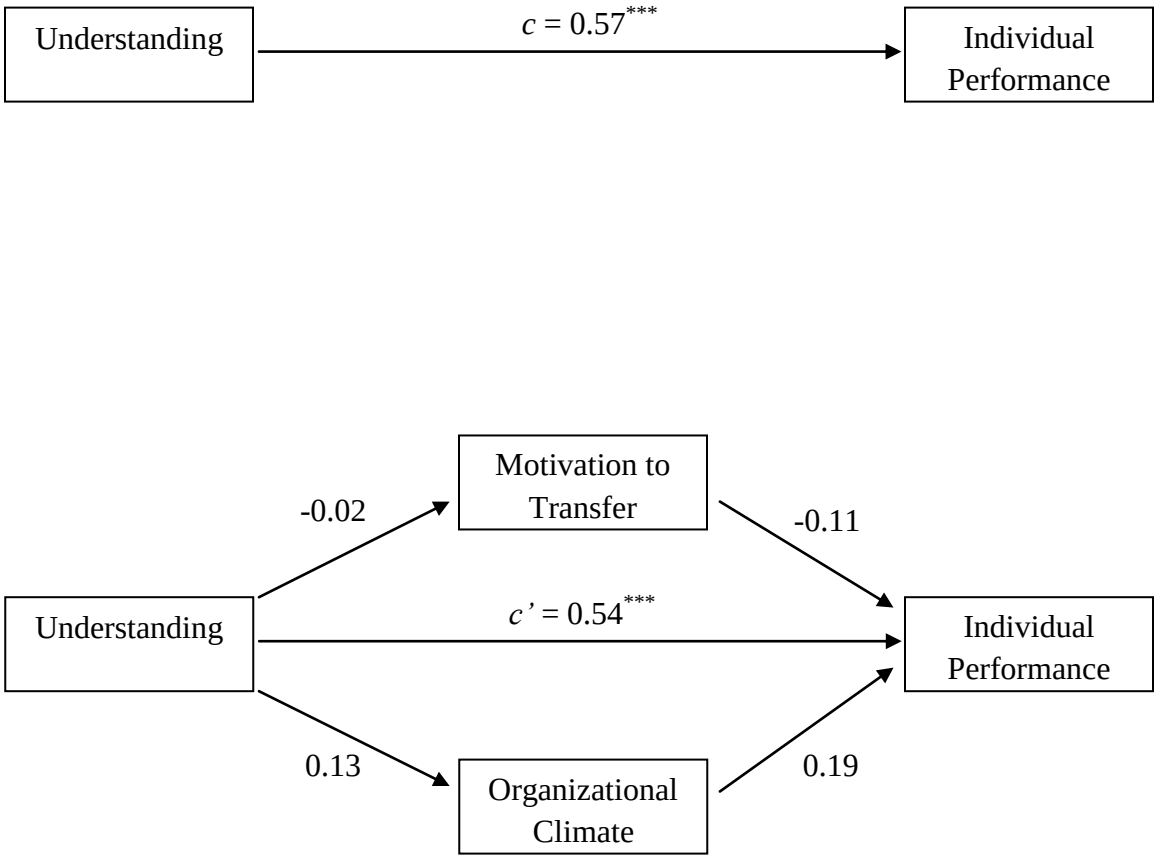


Figure 2. Pre-training Multiple Mediation Model for Effects of Understanding on Individual Performance. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Numbers represent unstandardized path coefficients. *c* = total effect of understanding on individual performance; *c*' = direct effect of understanding on individual performance.

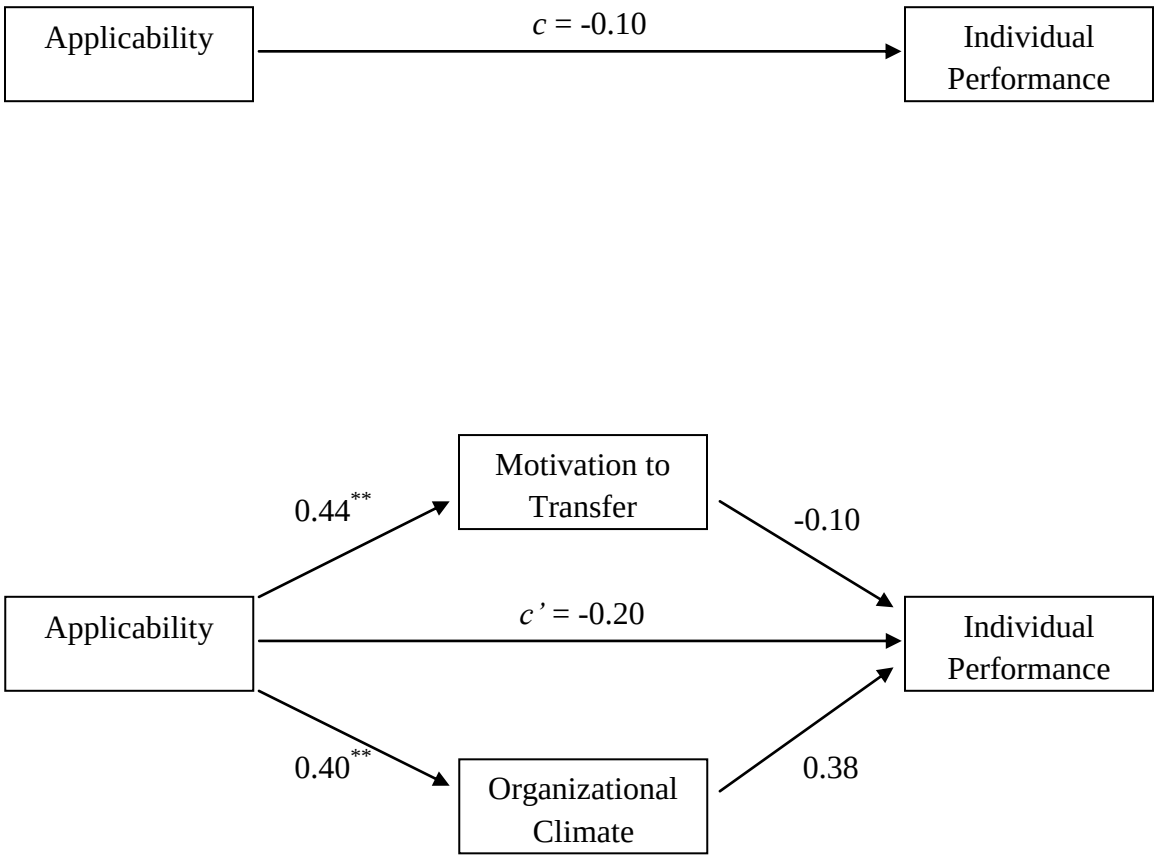


Figure 3. Pre-training Multiple Mediation Model for Effects of Applicability on Individual Performance. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Numbers represent unstandardized path coefficients. *c* = total effect of applicability on individual performance; *c*' = direct effect of applicability on individual performance.

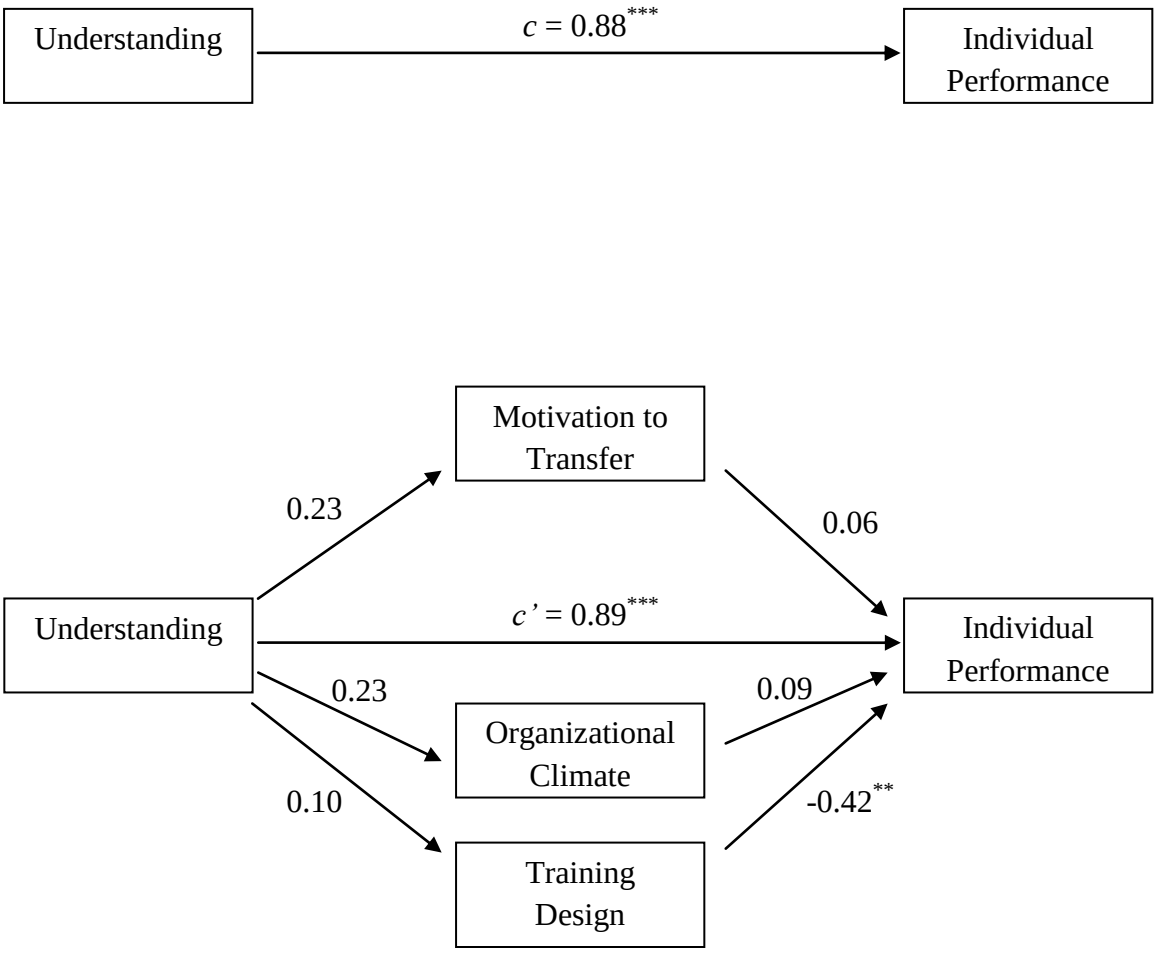


Figure 4. Post-training[1] Multiple Mediation Model for Effects of Understanding on Individual Performance. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Numbers represent unstandardized path coefficients. *c* = total effect of understanding on individual performance; *c*' = direct effect of understanding on individual performance.

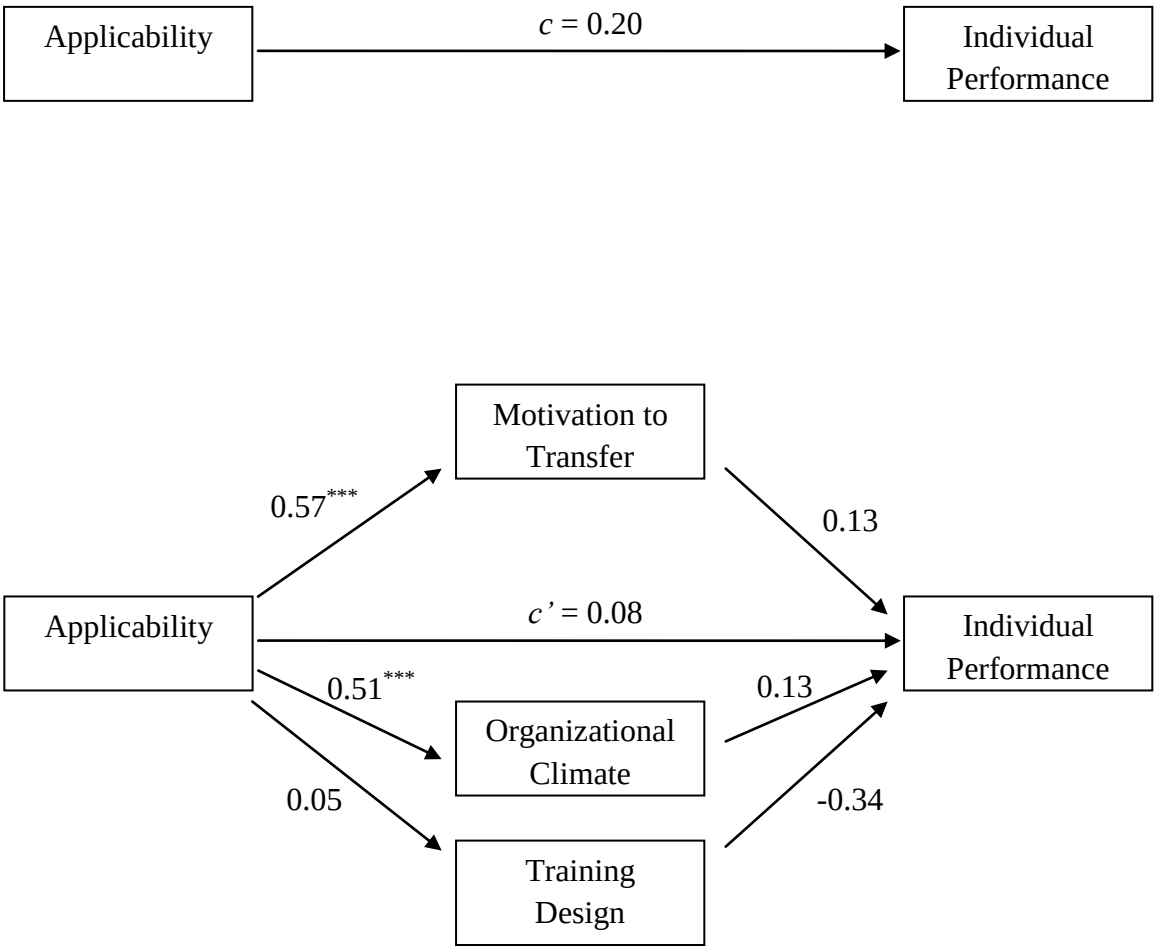


Figure 5. Post-training[1] Multiple Mediation Model for Effects of Applicability on Individual Performance. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Numbers represent unstandardized path coefficients. *c* = total effect of applicability on individual performance; *c*' = direct effect of applicability on individual performance.

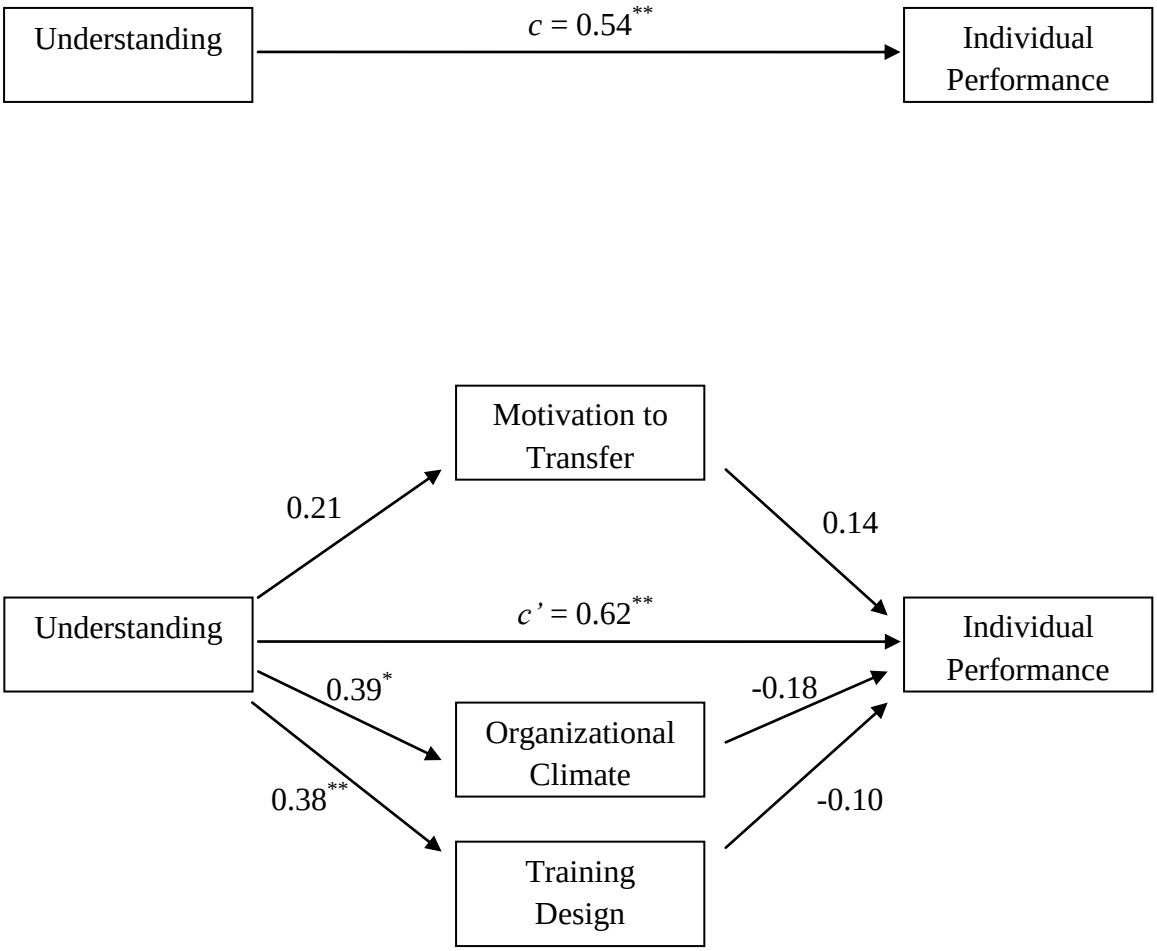


Figure 6. Post-training[2] Multiple Mediation Model for Effects of Understanding on Individual Performance. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Numbers represent unstandardized path coefficients. *c* = total effect of understanding on individual performance; *c*' = direct effect of understanding on individual performance.

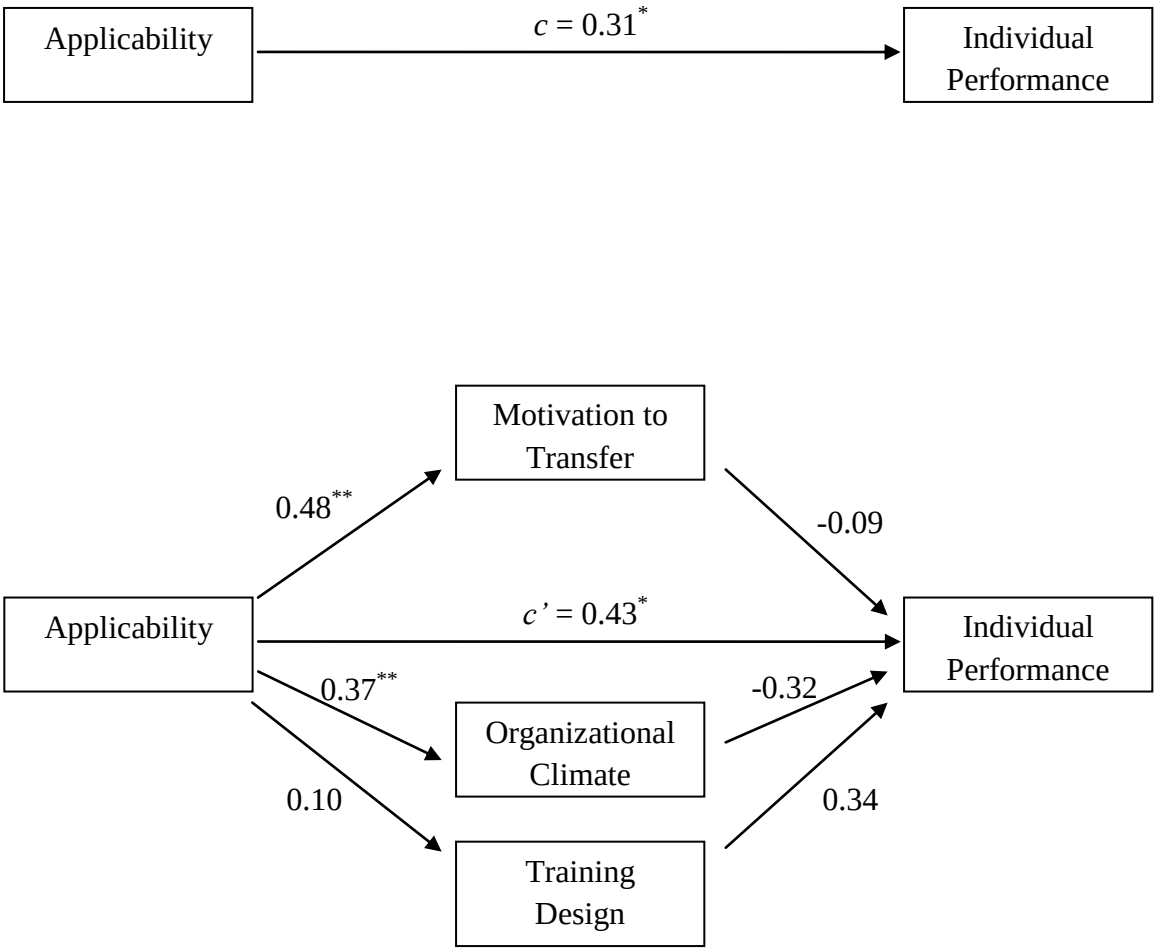


Figure 7. Post-training[2] Multiple Mediation Model for Effects of Applicability on Individual Performance. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Numbers represent unstandardized path coefficients. *c* = total effect of applicability on individual performance; *c*' = direct effect of applicability on individual performance.

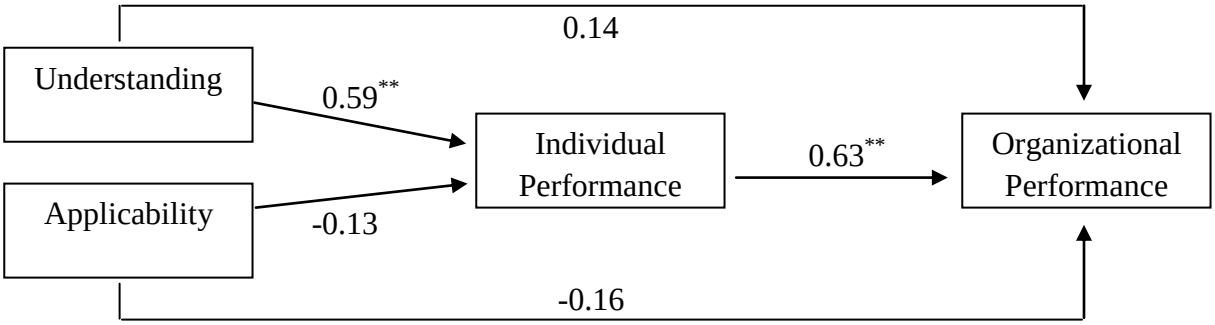


Figure 8. Pre-training Pearson's Correlation Analysis between Understanding, Applicability, Individual Performance, and Organizational Performance. *** $p < 0.001$.

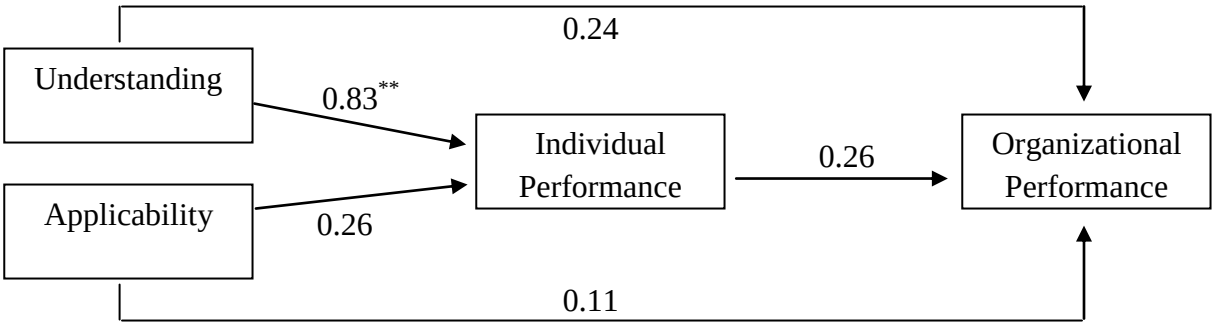


Figure 9. Post-training[1] Pearson's Correlation Analysis between Understanding, Applicability, Individual Performance, and Organizational Performance. *** $p < 0.001$.

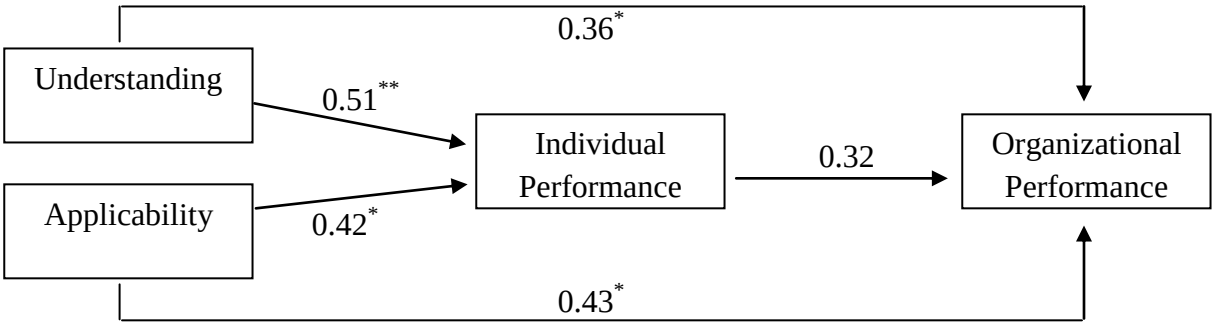


Figure 10. Post-training[2] Pearson's Correlation Analysis between Understanding, Applicability, Individual Performance, and Organizational Performance. ** $p < 0.01$, * $p < 0.05$.

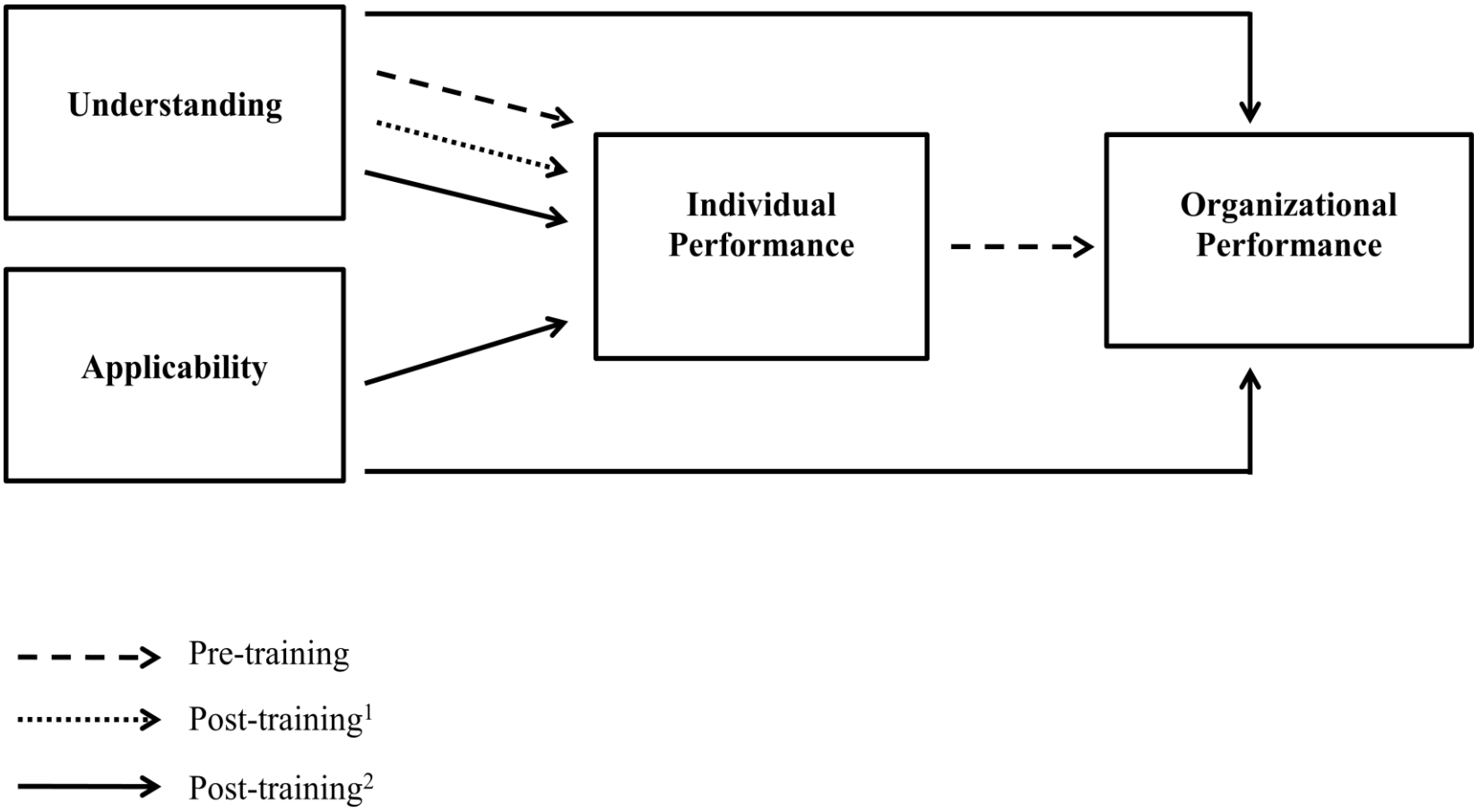


Figure 11. Model of the Progression of Training-Related Performance Change

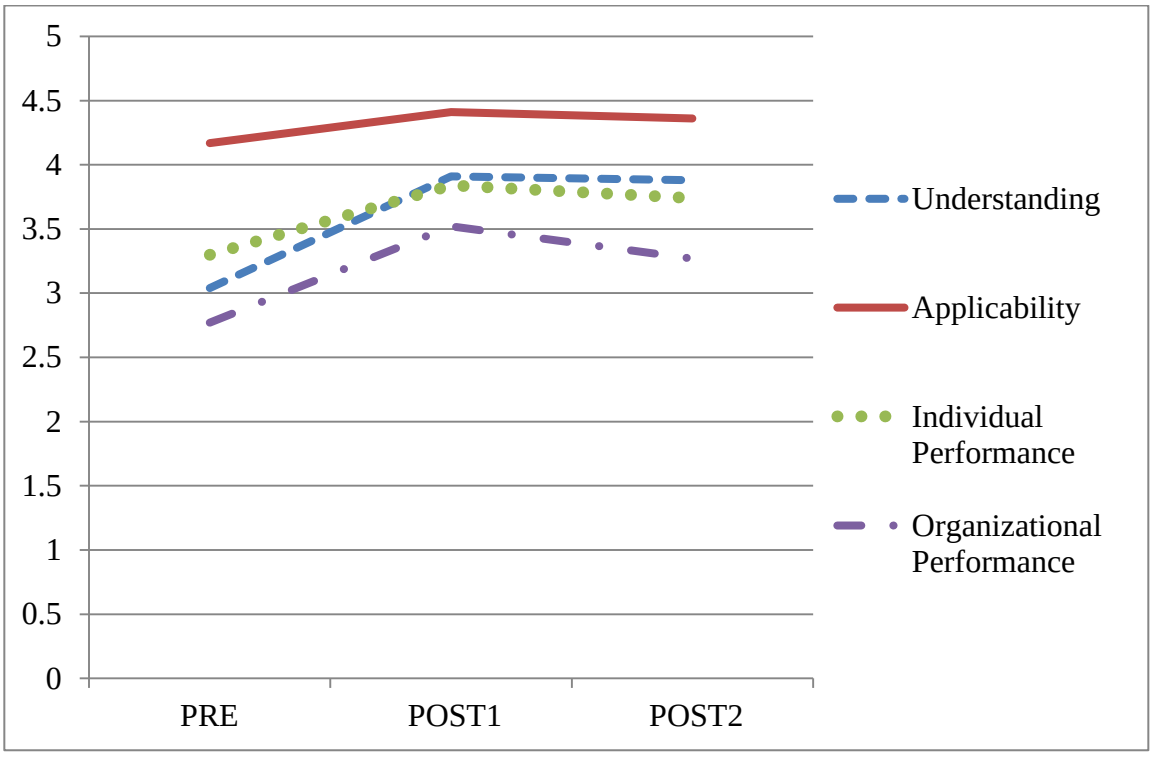


Figure 12. Mean Scores for Understanding, Applicability, Individual Performance, and Organizational Performance.

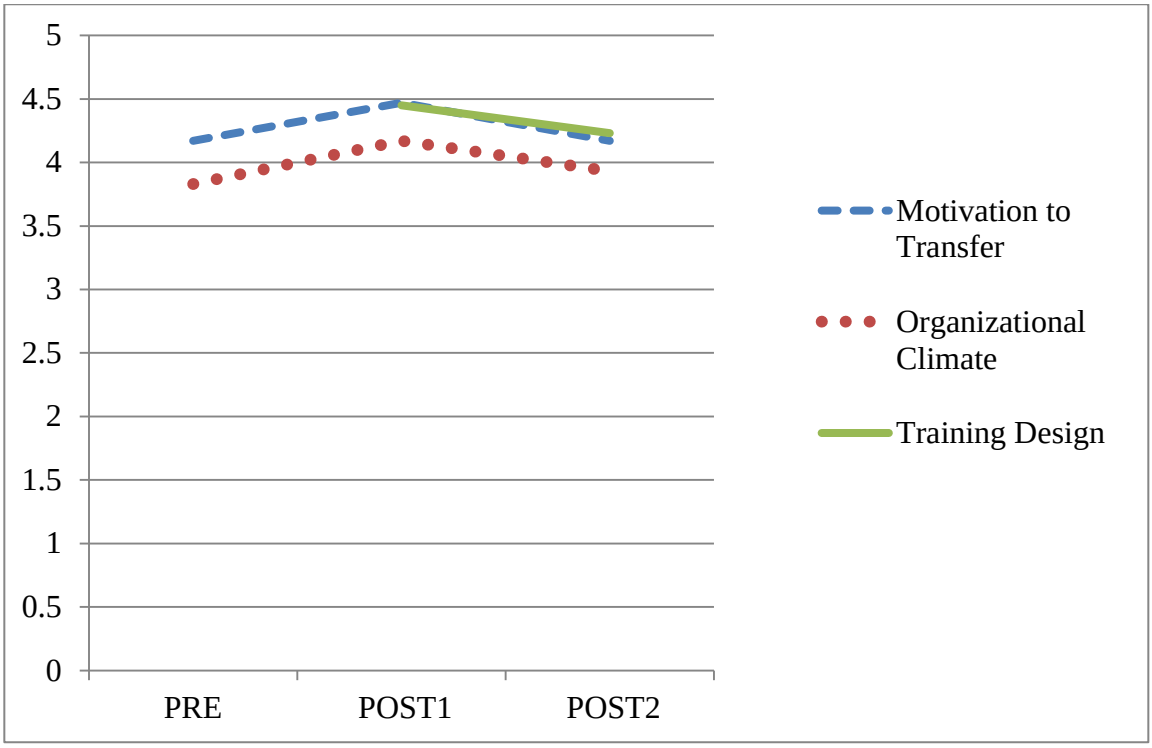


Figure 13. Mean Scores for Motivation to Transfer, Organizational Climate, and Training Design.

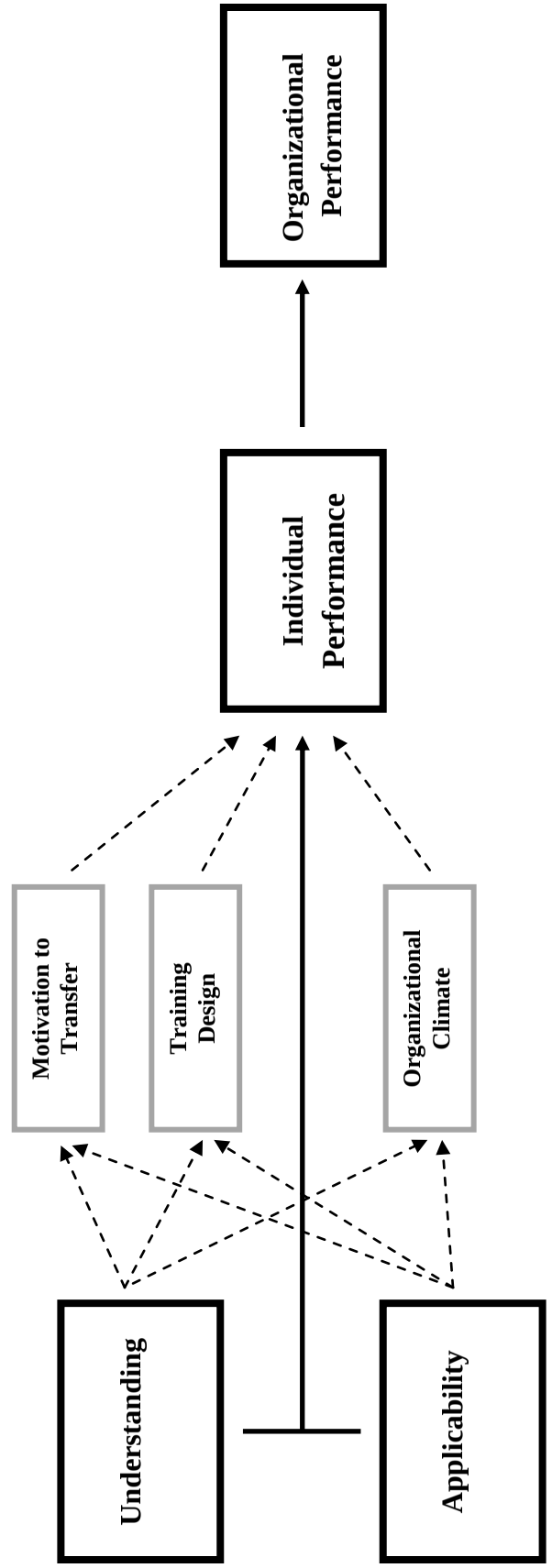


Figure 14. Revised Model of Training Transfer

Appendix A

Characteristics of each National Sport Organization*

		Size		Type	
National Sport Organization	**Year Formed**	**Membership**	**Board/Staff Ratio**	**Winter/ Summer**	**Team/ Individual**
NSO 1	1994	2,500	7:7	Both (summer Olympics)	Team
NSO 2	1953	80,000	8:14	Both (summer Olympics)	Team
NSO 3	1924	7,000	6:8	Both (summer Olympics)	Team
NSO 4	1996		6:3	Both (non-Olympic)	Individual (with team events)
NSO 5	1895	350,000	11:59	Summer	Individual
NSO 6	1985		12:9	Winter	Individual (with team events)

*Information was gathered from each NSO's official website

**Information regarding the budget of each NSO is not included due to the fluctuations in funding depending on the Summer/Winter Olympic Games and the quadrennial funding structure.

Appendix B

LETTER OF INVITATION

Title of Study: **Human Resource Training and National Sport Organization Managers: Examining the Impact of Training on Individual and Organizational Performance**

Principal Investigator: Dr. Julie Stevens
Director, Centre for Sport Capacity, Brock University

Graduate Student Investigator: Patricia Millar
Graduate Student, Department of Sport Management, Brock University

As a manager in a National Sport Organization (NSO), you are no doubt aware of the challenges and difficulties that leaders face in the Canadian sport system. As such, we invite you to participate in a research project that focuses on the development of off-the-field strategies that professionally develop NSO managers. We would greatly value your participation in this research study.

The purpose of this research project is to examine the training process as it relates to NSO managers. Specifically, the study examines the impact of one particular intervention, the True Sport Risk Management Program (RMP) workshop, upon individual and organizational performance over time.

Your participation in this study requires completing the same survey at six specific time periods - prior to the RMP workshop, immediately following the RMP workshop, three months after the RMP workshop, six months after the RMP workshop, nine months after the RMP workshop, and twelve months after the RMP workshop. The survey will take approximately 10 minutes of your time to complete, for an overall total of 60 minutes in the one year timeframe of the study. The survey also includes demographic, workshop design, personal motivation, and performance measures. The items are designed in such a way that you provide a rating for various factors.

Confidentiality will be maintained for all participants. Personal contact information is collected in order to facilitate the five stages of data collection and ensure your series of survey responses are matched. However, no personal or organizational identifiers will be included in any written or oral presentations of the results of the study. It should be noted

that the three, six, nine, and 12 month post workshop surveys will be administered on a U.S. based online survey website called Survey Monkey which is subject to American access to information laws.

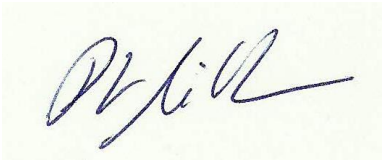
Participation in this study will give you the opportunity to share your thoughts and ideas regarding characteristics of the RMP workshop, how it impacted your personal learning and performance, and how it impacted the overall performance of your NSO. Results of the study will be shared within academic and practitioner forums.

Managers in National Sport Organizations are the foundation of the Canadian sport system and we would like to analyze the transfer of training process as a means to justify further professional development opportunities for 'off-the-field' leaders of the Canadian sport system.

If you have any questions about your rights as a research participant, please contact the Brock University Research Ethics Officer (905.688.5550 ext.3035, reb@brocku.ca).

If you have any questions, please feel free to contact either of researchers listed below.

We hope you will be able to join us as a participant in this study.



Dr. Julie Stevens

Patricia Millar

Julie Stevens, PhD.
Director
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Brock University
905.688.5550 X. 4668
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Patricia Millar
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Department of Sport Management
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patti.millar@brocku.ca

This study has been reviewed and received ethics clearance through Brock University's Research Ethics Board *(09-179).*

Appendix C

INFORMED CONSENT

Date: [insert]

Project Title: Human Resource Training and National Sport Organization Managers: Examining the Impact of Training on Individual and Organizational Performance

Principal Investigator:
Dr. Julie Stevens, PhD.
Associate Professor
Department of Sport Management
Brock University
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Graduate Student Investigator:
Patricia Millar
MA Graduate Student
Department of Sport Management
Brock University
c/o 905.688.5550 X. 4668
patti.millar@brocku.ca

INVITATION

You are invited to participate in a study that involves research. The purpose of this study is to examine the impact of the True Sport Risk Management Program (RMP) training workshop upon the personal learning and performance of national sport organization (NSO) managers, and the organizational performance of NSOs.

WHAT'S INVOLVED

As a participant, you will be asked to complete a questionnaire prior to attending the risk management workshop, immediately following the workshop, three months after the workshop, six months after the workshop, nine months after the workshop and twelve months after the workshop. Each stage of data collection will involve the same questionnaire and will take approximately 10 minutes of your time, for an overall total of 60 minutes in the one year timeframe of the study.

The questionnaire includes items where you rate the following aspects of the RMP training workshop (with example question in bracket):

a. *Understanding* (Please rate your level of understanding of how to identify risks).
b. *Applicability* (Please rate the extent to which identifying risks is applicable to your job).
c. *Motivation* (Please rate your level of motivation to understand the concepts presented in the workshop).
d. *Workshop design* (Please rate the RMP workshop package)
e. *Organizational climate* (Please rate the extent to which your organization embraces a climate to change).
f. *Individual Performance* (Please rate your ability to effectively analyze problems that you face in your job).

g. *Organizational Performance* (Please rate the extent to which your NSO integrates risk analysis into the organization's operational plan).

POTENTIAL BENEFITS AND RISKS

By participating in this study you will facilitate research to better understand the impact of training upon the individual and organizational performance of NSO managers which will help promote additional professional development initiatives among this group of sport leaders. On a personal level, the RMP workshop study provides you with an opportunity to develop strong decision-making and risk management skills, and to enhance your involvement in the True Sport Movement.

There are no known or anticipated risks associated with participation in this study.

CONFIDENTIALITY

All questionnaire responses and background information you provide is considered confidential; your name and the name of your organization will not be included or, in any other way, associated with the findings from this study. Personal and organizational identifiers are collected to facilitate the various stages of data collection and ensure your series of survey responses are matched. You will not be identified individually in any way in any written reports and individual responses will not be included in this research.

Given that stage two of the survey will be completed in a group-based setting at the end of the workshop, we ask you to respect your fellow trainee's by keeping confidential any information that could potentially identify participants or impact the integrity of this study.

The hard copies of data collected during this study will be stored in a locked filing cabinet in the principal investigator's office. Electronic copies of the data collected during this study will be stored on password protective mediums, such as hard drives and memory keys. Survey Monkey, an online survey service, will be used to collect data for stages three through five of data collection. Survey Monkey is a USA-based company, which is subject to access to information laws.

In order to ensure confidentiality beyond the principal and student researchers, all research assistants will complete a third-party confidentiality agreement. Responses will be coded in order that data may be analyzed according to participant number rather than personal identifiers. A master list identifying participants and their respective number will be compiled and kept in a locked filing cabinet in the Principal Investigator's office. Hard and electronic copies of the data will be kept indefinitely in order to enable longitudinal comparisons.

VOLUNTARY PARTICIPATION

Participation in this study is voluntary. If you wish, you may decline to answer any questions or participate in any component of the study. You may ask any questions of the researchers during the research process. Further, you may decide to withdraw from this study at any time and may do so without any penalty or loss of benefits to which you are entitled. Upon withdrawal, you may opt to remove your data from the study questionnaire (hard and e-copies will be destroyed) or leave all your information collected to that date in the study data pool for future analysis.

PUBLICATION OF RESULTS

Results of this study may be published or presented in academic journals and at scholarly conferences. In addition, results may be shared within sport practitioner forums. Any participant who indicates an interest in seeing the results of the study will be sent an executive summary via email or mail, upon completion of the study (approximately July 2011). Please indicate your interest at the end of the consent form.

CONTACT INFORMATION AND ETHICS CLEARANCE

If you have any questions about this study or require further information, please contact one of the research team members using the contact information provided above. This study has been reviewed and received ethics clearance through the Research Ethics Board at Brock University *(09-179).* If you have any comments or concerns about your rights as a research project, please contact the Research Ethics Office at (905) 688-5550 ext. 3035, reb@brocku.ca.

Thank you for your assistance in this project. Please keep a copy of this form for your records.

CONSENT FORM

I agree to participate in this study described above. I have made this decision based on the information I have read in the Information-Consent Letter. I have had that opportunity to receive any additional details I wanted about the study and understand that I may ask questions in the future. I understand that participating in this research project is part of my registration in the risk management training workshop.

Name:_____

Organization:_____

Signature:_____ Date:_____

Email(required): _____

[ ] I would like to receive a copy of the study results

Contact Address (mail or email):

_____
_____
_____
_____

Appendix D

Human Resource Training and National Sport Organization Managers: Examining the Impact of Training on Individual and Organizational Performance
PRE-WORKSHOP SURVEY

Thank you for participating in this study. There are seven (7) sections to this survey, which assess your level of understanding and applicability of the Risk Management Workshop, as well as your perceived individual and organizational performance. Please take your time to answer the questions as accurately and thoroughly as possible. Please bring a hard copy of the completed survey with you to the Risk Management Workshop registration. Your participation is greatly appreciated.

1: Demographics

The purpose of this section is to gather demographic information in order to match each survey and conduct group comparisons of the data. Therefore it is imperative that you include your name and the name of your organization. Please fill out every section as accurately as possible. All responses are confidential.

Name: _____

Birthday: _____ year _____ month _____ day

Gender: _____male _____female

Name of Organization:_____

Work Status:

Which of the following BEST describes your current employment situation? (check one)

- ○ Employed full-time
- ○ Employed part-time
- ○ Contractual (ie. consultant, etc)

Total Years of Employment [Note: (a) + (b) + (c) = total years worked]:

How many years have you worked with your current NSO? _____(a)
How many years have you worked with other sport organization(s)? _____(b)
How many years have you worked in any other industry? _____(c)

Education Background (check all that apply):

- ○ Less than High School
- ○ High School Diploma
- ○ University Degree _____ list quantity
- ○ College Diploma _____ list quantity
- ○ Technical or Associates Degree _____ list quantity
- ○ Masters Degree _____ list quantity
- ○ PhD _____ list quantity
- ○ Other certification

Please specify:_____

2*a*: Learning – *Understanding*

The purpose of this section is to assess your level of understanding of the various subject areas of the Risk Management Workshop on a scale ranging from *do not understand* (1) to *completely understand* (5). Please reflect upon your current understanding of the subject areas and answer the following questions to the best of your ability.

Please rate your level of understanding for each of the following subject areas:	**1 –do not understand**	**2 –understand very little**	**3 –somewhat understand**	**4 –understand a great deal**	**5 –completely understand**	**NOT RELEVANT**
How to…						
1. Identify risks	O	O	O	O	O	O
2. Analyze risks	O	O	O	O	O	O
3. Assess risks	O	O	O	O	O	O
4. Prioritize risks	O	O	O	O	O	O
5. Create a risk management plan	O	O	O	O	O	O
6. Implement a risk management plan	O	O	O	O	O	O
7. Frame risks into possible opportunities when appropriate	O	O	O	O	O	O
8. Minimize risks associated with NOT being a safe and welcoming organization	O	O	O	O	O	O
9. Declare your organization's commitment to the True Sport Movement	O	O	O	O	O	O
10. Implement initiatives that are reflective of the True Sport Movement	O	O	O	O	O	O
11. Utilize tools to deal with identified risks	O	O	O	O	O	O
12. Utilize tools to improve dispute resolution	O	O	O	O	O	O
13. Utilize risk management tools to improve business management performance	O	O	O	O	O	O
14. Ensure safety in programs	O	O	O	O	O	O
15. Utilize techniques to minimize liability	O	O	O	O	O	O
16. Use risk management methods to manage members and stakeholders expectations	O	O	O	O	O	O
17. Effectively manage programs and activities	O	O	O	O	O	O
18. Improve internal and external communication	O	O	O	O	O	O
Please rate your <u>overall</u> level of understanding of the Risk Management Workshop	O	O	O	O	O	O

2*b*: Learning – *Applicability*

This purpose of this section is to assess your perceived level of applicability of the various subject areas of the Risk Management Workshop on a scale ranging from *not applicable* (1) to *completely applicable* (5). Please reflect upon how applicable each subject area is to your job and answer the following questions to the best of your ability.

Please rate your level of applicability for each of the following subject areas:	**1 –do not understand**	**2 –understand very little**	**3 –somewhat understand**	**4 –understand a great deal**	**5 –completely understand**	**NOT RELEVANT**
How to…						
1. Identify risks	O	O	O	O	O	O
2. Analyze risks	O	O	O	O	O	O
3. Assess risks	O	O	O	O	O	O
4. Prioritize risks	O	O	O	O	O	O
5. Create a risk management plan	O	O	O	O	O	O
6. Implement a risk management plan	O	O	O	O	O	O
7. Frame risks into possible opportunities when appropriate	O	O	O	O	O	O
8. Minimize risks associated with NOT being a safe and welcoming organization	O	O	O	O	O	O
9. Declare your organization's commitment to the True Sport Movement	O	O	O	O	O	O
10. Implement initiatives that are reflective of the True Sport Movement	O	O	O	O	O	O
11. Utilize tools to deal with identified risks	O	O	O	O	O	O
12. Utilize tools to improve dispute resolution	O	O	O	O	O	O
13. Utilize risk management tools to improve business management performance	O	O	O	O	O	O
14. Ensure safety in programs	O	O	O	O	O	O
15. Utilize techniques to minimize liability	O	O	O	O	O	O
16. Use risk management methods to manage members and stakeholders expectations	O	O	O	O	O	O
17. Effectively manage programs and activities	O	O	O	O	O	O
18. Improve internal and external communication	O	O	O	O	O	O
Please rate your <u>overall</u> level of applicability of the Risk Management Workshop	O	O	O	O	O	O

3: Individual Performance

The purpose of this section is to assess your individual level of performance of various Risk Management practices and strategies on a scale ranging from *poor performance* (1) to *excellent performance* (5). Please answer the following questions to the best of your ability.

Please rate your level of performance for the following areas:	**1 –Poor Performance**	**2 –Low Performance**	**3 –Moderate Performance**	**4 –High Performance**	**5 –Excellent Performance**
1. Understanding of key terms and concepts in risk management	O	O	O	O	O
2. Identification of the risks associated with your job tasks and responsibilities	O	O	O	O	O
3. Development of useful relevant risk management strategies	O	O	O	O	O
4. Ability to effectively analyze problems that you face in your job	O	O	O	O	O
5. Decision-making skills	O	O	O	O	O
Please rate your <u>overall</u> level of performance	O	O	O	O	O

4: Organizational Performance

The purpose of this section is to assess your organization's level of performance (NSO/PSO) for various Risk Management strategies and practices on a scale ranging from *poor performance* (1) to *excellent performance* (5). Please answer the following questions to the best of your ability.

Please rate your organization's level of performance for the following areas:	**1–Poor Performance**	**2–Low Performance**	**3–Moderate Performance**	**4–High Performance**	**5–Excellent Performance**
1. Understanding of key risks facing the organization	O	O	O	O	O
2. Understanding how risk management can be applied to the organization	O	O	O	O	O
3. Integration of risk analysis into the organization's operational plan	O	O	O	O	O
4. Development of the risk management plan for the organization	O	O	O	O	O
5. Implementation of the risk management plan	O	O	O	O	O
Please rate your organization's <u>overall</u> level of performance	O	O	O	O	O

5: Motivation

The purpose of this section is to assess your motivation towards attending the Risk Management Workshop and transferring the workshop content to your job on a scale ranging from *very low motivation* (1) to *very high motivation* (5). Please answer each of the following to the best of your ability.

Please rate your level of motivation for each of the following:	**1 –Very low motivation**	**2 –Low motivation**	**3 –Satisfactory motivation**	**4 –High motivation**	**5 –Very high motivation**
1. To attend the risk management workshop	O	O	O	O	O
2. To understand the concepts presented in the workshop	O	O	O	O	O
3. To apply the concepts presented in the workshop on the job	O	O	O	O	O
4. To utilize the workshop content to improve your individual performance	O	O	O	O	O
5. To utilize the workshop content to improve your organization's performance	O	O	O	O	O
Please rate your <u>overall</u> level of motivation towards the Risk Management Workshop	O	O	O	O	O

6: Organizational Climate

The purpose of this section is to assess your organization's (NSO/PSO) climate to adopt and promote the strategies and practices presented in the Risk Management Workshop on a scale ranging from *very poor* (1) to *very good* (5). Please answer the following to the best of your ability.

Please rate the following characteristics for your organization's:	**1 –Very poor**	**2 –Poor**	**3 –Satisfactory**	**4 –Good**	**5 –Very good**
1. Flexibility to apply new processes	O	O	O	O	O
2. Opportunity to use content from a training program	O	O	O	O	O
3. Supervisor feedback on content from a training program	O	O	O	O	O
4. Peer feedback on content from a training program	O	O	O	O	O
5. Supervisor support for participation in training programs	O	O	O	O	O
6. Peer support for participation in training programs	O	O	O	O	O
7. Interest in employee self-development	O	O	O	O	O
8. Interest in employee professional development	O	O	O	O	O
Please rate your organization's <u>overall</u> climate to adopt change	O	O	O	O	O

7: General Comments

Included below are supplemental questions to expand on any of the above sections. Please provide detailed responses and any comments regarding material covered in sections 1-7 of this survey.

Please provide any comments regarding how well you <u>understand</u> the Risk Management Workshop material.

Please provide any comments regarding the <u>applicability</u> of the Risk Management Workshop material to your job.

Please provide any comments regarding how your Risk Management Workshop learning experience impacts:

a) **<u>Your individual level of performance</u>:**

b) **<u>Your organization's level of performance</u>:**

Appendix E

Human Resource Training and National Sport Organization Managers: Examining the Impact of Training on Individual and Organizational Performance POST[1] (immediately after) WORKSHOP SURVEY

Thank you for participating in this study. There are eight (8) sections to this survey, which assess your level of understanding and applicability of the Risk Management Workshop, as well as your perceived individual and organizational performance. Please take your time to answer the questions as accurately and thoroughly as possible. Please insert the completed survey into the envelope provided and submit to the researcher or one of the facilitators. Your participation is greatly appreciated.

1: Demographics

The purpose of this section is to gather demographic information in order to match each survey. Therefore it is imperative that you include your name and the name of your organization. All responses are confidential.

Name: _____

Name of Organization: _____

2*a*: Learning – *Understanding*

The purpose of this section is to assess your level of understanding of the various subject areas of the Risk Management Workshop on a scale ranging from *do not understand* (1) to *completely understand* (5). Please reflect upon your current understanding of the subject areas and answer the following questions to the best of your ability.

Please rate your level of understanding for each of the following subject areas:	**1 –do not understand**	**2 –understand very little**	**3 –somewhat understand**	**4 –understand a great deal**	**5 –completely understand**	**NOT RELEVANT**
How to…						
1. Identify risks	O	O	O	O	O	O
2. Analyze risks	O	O	O	O	O	O
3. Assess risks	O	O	O	O	O	O
4. Prioritize risks	O	O	O	O	O	O
5. Create a risk management plan	O	O	O	O	O	O
6. Implement a risk management plan	O	O	O	O	O	O
7. Frame risks into possible opportunities when appropriate	O	O	O	O	O	O
8. Minimize risks associated with NOT being a safe and welcoming organization	O	O	O	O	O	O
9. Declare your organization's commitment to the True Sport Movement	O	O	O	O	O	O
10. Implement initiatives that are reflective of the True Sport Movement	O	O	O	O	O	O
11. Utilize tools to deal with identified risks	O	O	O	O	O	O
12. Utilize tools to improve dispute resolution	O	O	O	O	O	O
13. Utilize risk management tools to improve business management performance	O	O	O	O	O	O
14. Ensure safety in programs	O	O	O	O	O	O
15. Utilize techniques to minimize liability	O	O	O	O	O	O
16. Use risk management methods to manage members and stakeholders expectations	O	O	O	O	O	O
17. Effectively manage programs and activities	O	O	O	O	O	O
18. Improve internal and external communication	O	O	O	O	O	O
Please rate your <u>overall</u> level of understanding of the Risk Management Workshop	O	O	O	O	O	O

2*b*: Learning – *Applicability*

This purpose of this section is to assess your perceived level of applicability of the various subject areas of the Risk Management Workshop on a scale ranging from *not applicable* (1) to *completely applicable* (5). Please reflect upon how applicable each subject area is to your job and answer the following questions to the best of your ability.

Please rate the extent to which each of the following subject areas is applicable to your job:	**1 –not applicable**	**2 –applicable very little**	**3 –somewhat applicable**	**4 –applicable a great deal**	**5 –completely applicable**	**NOT RELEVANT**
How to…						
1. Identify risks	O	O	O	O	O	O
2. Analyze risks	O	O	O	O	O	O
3. Assess risks	O	O	O	O	O	O
4. Prioritize risks	O	O	O	O	O	O
5. Create a risk management plan	O	O	O	O	O	O
6. Implement a risk management plan	O	O	O	O	O	O
7. Frame risks into possible opportunities when appropriate	O	O	O	O	O	O
8. Minimize risks associated with NOT being a safe and welcoming organization	O	O	O	O	O	O
9. Declare your organization's commitment to the True Sport Movement	O	O	O	O	O	O
10. Implement initiatives that are reflective of the True Sport Movement	O	O	O	O	O	O
11. Utilize tools to deal with identified risks	O	O	O	O	O	O
12. Utilize tools to improve dispute resolution	O	O	O	O	O	O
13. Utilize risk management tools to improve business management performance	O	O	O	O	O	O
14. Ensure safety in programs	O	O	O	O	O	O
15. Utilize techniques to minimize liability	O	O	O	O	O	O
16. Use risk management methods to manage members and stakeholders expectations	O	O	O	O	O	O
17. Effectively manage programs and activities	O	O	O	O	O	O
18. Improve internal and external communication	O	O	O	O	O	O
Please rate the <u>overall</u> applicability of the Risk Management Workshop to your job	O	O	O	O	O	O

3: Individual Performance

The purpose of this section is to assess your individual level of performance of various Risk Management practices and strategies on a scale ranging from *poor performance* (1) to *excellent performance* (5). Please answer the following questions to the best of your ability.

Please rate your level of performance for the following areas:	**1 –Poor Performance**	**2 –Low Performance**	**3 –Moderate Performance**	**4 –High Performance**	**5–Excellent Performance**
1. Understanding of key terms and concepts in risk management	O	O	O	O	O
2. Identification of the risks associated with your job tasks and responsibilities	O	O	O	O	O
3. Development of useful relevant risk management strategies	O	O	O	O	O
4. Ability to effectively analyze problems that you face in your job	O	O	O	O	O
5. Decision-making skills	O	O	O	O	O
Please rate your <u>overall</u> level of performance	O	O	O	O	O

4: Organizational Performance

The purpose of this section is to assess your organization's level of performance (NSO/PSO) for various Risk Management strategies and practices on a scale ranging from *poor performance* (1) to *excellent performance* (5). Please answer the following questions to the best of your ability.

Please rate your organization's level of performance for the following areas:	**1–Poor Performance**	**2–Low Performance**	**3–Moderate Performance**	**4–High Performance**	**5–Excellent Performance**
1. Understanding of key risks facing the organization	O	O	O	O	O
2. Understanding how risk management can be applied to the organization	O	O	O	O	O
3. Integration of risk analysis into the organization's operational plan	O	O	O	O	O
4. Development of the risk management plan for the organization	O	O	O	O	O
5. Implementation of the risk management plan	O	O	O	O	O
Please rate your organization's <u>overall</u> level of performance	O	O	O	O	O

5: Motivation

The purpose of this section is to assess your motivation towards attending the Risk Management Workshop and transferring the workshop content to your job on a scale ranging from *very low motivation* (1) to *very high motivation* (5). Please answer each of the following to the best of your ability.

Please rate your level of motivation for each of the following:	**1 –Very low motivation**	**2 –Low motivation**	**3 –Satisfactory motivation**	**4 –High motivation**	**5 –Very high motivation**
1. To attend the risk management workshop	O	O	O	O	O
2. To understand the concepts presented in the workshop	O	O	O	O	O
3. To apply the concepts presented in the workshop on the job	O	O	O	O	O
4. To utilize the workshop content to improve your individual performance	O	O	O	O	O
5. To utilize the workshop content to improve your organization's performance	O	O	O	O	O
Please rate your <u>overall</u> level of motivation towards the Risk Management Workshop	O	O	O	O	O

6: Training Design

The purpose of this section is to assess various features of the design and implementation of the Risk Management Workshop on a scale ranging from *very poor* (1) to *very good* (5). Please answer the following to the best of your ability.

Please rate the following workshop features:	**1 –Very poor**	**2 –Poor**	**3 –Satisfactory**	**4 –Good**	**5 –Very good**
1. Adequate time to learn new concepts and their applications	O	O	O	O	O
2. Adequate time discussing these, and working through the various tasks	O	O	O	O	O
3. Pre-meeting package	O	O	O	O	O
4. Facilitators skill	O	O	O	O	O
5. Facilitators knowledge	O	O	O	O	O
6. Adequate workshop facility	O	O	O	O	O
Please rate the <u>overall</u> training design of the Risk Management Workshop	O	O	O	O	O

7: Organizational Climate

The purpose of this section is to assess your organization's (NSO/PSO) climate to adopt and promote the strategies and practices presented in the Risk Management Workshop on a scale ranging from *very poor* (1) to *very good* (5). Please answer the following to the best of your ability.

Please rate the following characteristics for your organization's:	**1 –Very poor**	**2 –Poor**	**3 –Satisfactory**	**4 –Good**	**5 –Very good**
1. Flexibility to apply new processes	O	O	O	O	O
2. Opportunity to use content from a training program	O	O	O	O	O
3. Supervisor feedback on content from a training program	O	O	O	O	O
4. Peer feedback on content from a training program	O	O	O	O	O
5. Supervisor support for participation in training programs	O	O	O	O	O
6. Peer support for participation in training programs	O	O	O	O	O
7. Overall interest in employee self-development	O	O	O	O	O
8. Overall interest in employee professional development	O	O	O	O	O
Please rate your organization's <u>overall</u> climate to adopt change	O	O	O	O	O

8: General Comments

Included below are supplemental questions to expand on any of the above sections. Please provide detailed responses and any comments regarding material covered in sections 1-8 of this survey.

Please provide any comments regarding how well you <u>understand</u> the Risk Management Workshop material.

Please provide any comments regarding the <u>applicability</u> of the Risk Management Workshop material to your job.

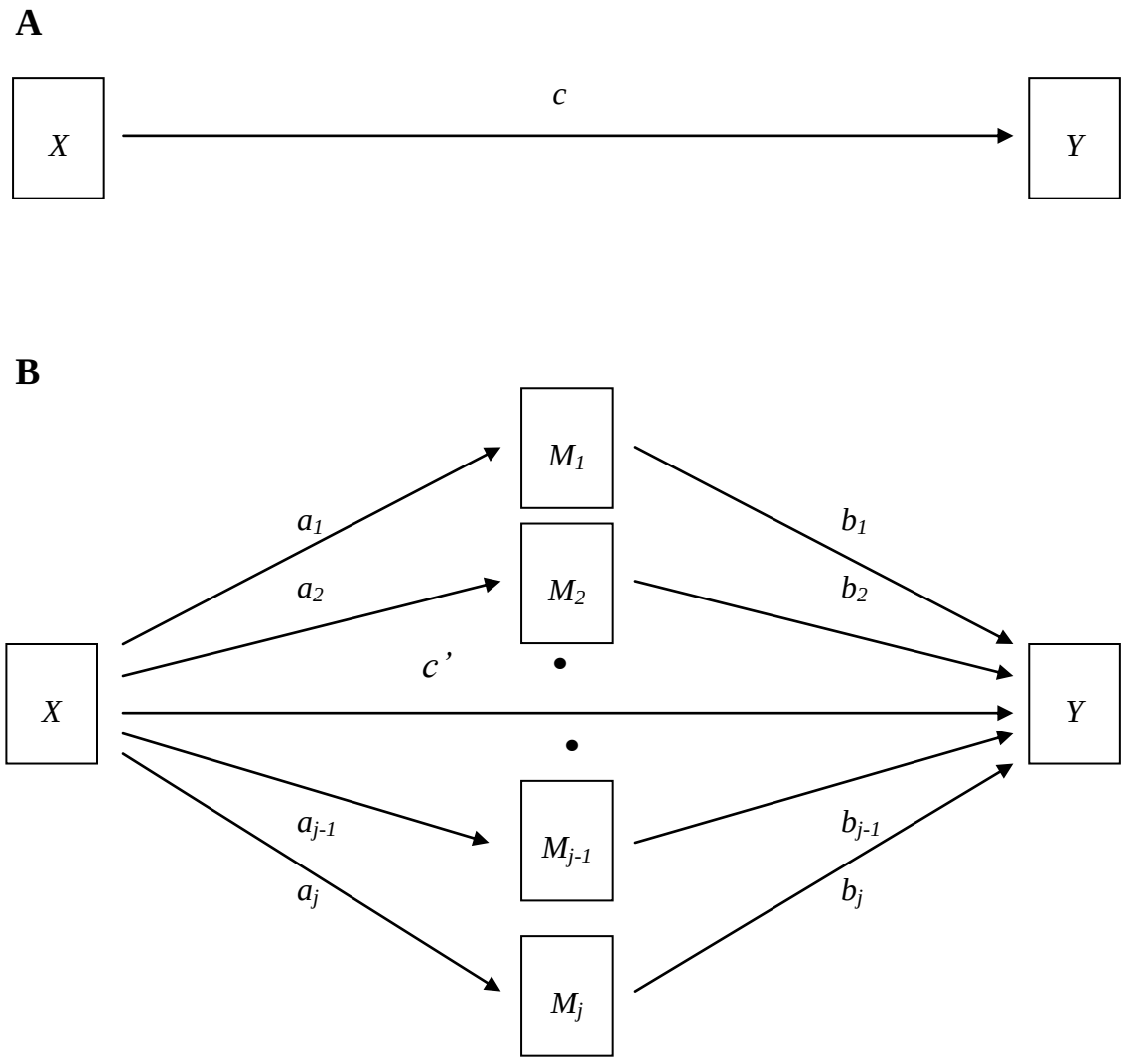
Please provide any comments regarding how your Risk Management Workshop learning experience impacts:

c) **Your individual level of performance:**

d) **Your organization's level of performance:**

Appendix F

Illustration of general multiple mediation model.



Note. Illustration of a multiple mediation design with *j* mediators. (A) Represents the total effect of *X* on *Y* (path *c*). (B) Represents both the direct effect of *X* on *Y* (path *c'*) and the indirect effects of *X* on *Y* via the *j* mediators. *X* is hypothesized to exert indirect effects on *Y* through M_1, M_2, ..., M_j.

Appendix G

Summary of hypotheses with associated statistical tests.

Preliminary Statistics, Data Cleaning, etc.	- Descriptive statistics - Missing values substitution - Cronbach's for all variables - Statistical assumptions for hypothesis testing
H_1: The level of learning (understanding and applicability) increases after a training program	-Paired-samples t-test [Assumptions: (1) only the matched pair can be used for the paired sample; (2) normal distribution; (3) equal variance/homogeneity; (4) independence of observations]
H_2: The level of learning (understanding and applicability) is highest immediately after a training program	-Repeated-measures ANOVA [Assumptions: (1) normality; (2) equal variance/homogeneity; (3) independence of observations]
H_3: Individual performance increases after a training program	-Paired-samples t-test
H_4: Individual performance is positively correlated to learning (understanding and applicability)	-Correlation analysis (bivariate correlations) –Pearson's correlation (depending on normality) -Simple linear regression
H_5: Organizational performance increases after a training program	-Paired-samples t-test
H_6: Organizational performance is positively correlated individual performance	-Correlation analysis (bivariate correlations) – Pearson's correlation -Simple linear regression
H_7: Motivation to transfer, training design, and organizational climate mediate the relationship between learning and individual performance	-Multiple mediation – bootstrapping method